October 18, 2005

Via Overnight Mail

Ms. Linda Mangrum
U.S. Environmental Protection Agency
Remedial Enforcement Support Section
77 West Jackson Boulevard, SR-6J
Chicago, IL 60604-3590

Re: USS Lead Site, East Chicago, Indiana - Requests for Information

Dear Ms. Mangrum:

This letter is the response of Arkema Inc. (as successor to ATOFINA Chemicals, Inc. and M&T Chemicals, Inc.) to the United States Environmental Protection Agency Requests for Information dated August 15, 2005 regarding the USS Lead Site in East Chicago, Indiana. Arkema received an extension of time to respond until October 21, 2005.

In preparing this response, Arkema performed a reasonable and diligent search of potentially relevant records in the possession of Arkema. This response is based upon Arkema's investigation to date, and Arkema reserves the right to supplement or amend this response if additional relevant information is discovered. This response should not be construed as an admission of liability.

As a general matter and without limitation, Arkema objects to each of the Requests for Information as irrelevant, vague, overbroad and not reasonably calculated to lead to admissible evidence as each seeks information beyond the scope permissible under CERCLA Section 104(e). Arkema further reserves any and all rights it may have arising out of these Requests for Information, including the right to raise any issue or defense.

Arkema Inc.
2000 Market Street
Philadelphia, PA 19103

Tel. : 215 419 7000
www.arkemagroup.com

Arkema requests that U.S. EPA produce to it all documentation showing an alleged nexus between Arkema and the USS Lead Site. Please contact me at 215-419-5194 with any questions.

Sincerely,

Karen E. Traeger/ll

Karen E. Traeger
Of Counsel

KET/ll
Enclosures

cc: Ellen O'Brien, Esq. (w/ letter and response; documents previously provided)

W:\USPH\PHIL\$DATA\DPT-Legal\ENVLAW\Traeger\USS Lead Site\Mangrum Letter 10.19.05.doc

USS Lead Site Request for Information

1. Identify all persons consulted in the preparation of the answers to these questions.

   Response: John Lutz
   Records Manager
   Arkema Inc.
   2000 Market Street
   Philadelphia, PA 19103

   G. Douglas Loutzenhiser
   Director, Environment and Sustainable Development
   Arkema Inc.
   900 First Avenue
   King of Prussia, PA 19406

2. Identify all documents consulted, examined, or referred to in the preparation of the answers to these questions, and provide copies of all such documents.

   Response: Arkema performed a reasonable and diligent search for potentially relevant archived records. See attached documents.

3. If you have reason to believe that there may be persons able to provide a more detailed or more complete response to any questions in this Information Request or who may be able to provide additional responsive documents, identify such persons.

   Response: Ellen O'Brien, Esq.
   Citigroup Inc. and MRC Holdings, Inc.,
   Successors to American Can Company
   300 St. Paul Place
   Baltimore, MD 21202

   See response to Request #7 below.

4. List your EPA Identification Numbers.

   Response: IND005443825

5. Identify the acts or omissions of any person, other than your employees, contractors, or agents, that may have caused the release or threat of release of hazardous substances, pollutants, or contaminants that may have migrated to or been deposited upon the Site.

   Response: See attached documents.

6. Identify all persons, including current and former employees of M&T Chemicals, Inc. (herein after, "the Company") located at 415 E. 151st Street (herein after, "the Facility"), East Chicago, Indiana and its contractors and subcontractors, having knowledge or information about the generation, transportation, treatment, placement, disposal, or other handling of hazardous substances, at the Facility, or the migration or disposal of hazardous substances at the Site.

Response: As to the Site, Arkema as no knowledge responsive to this Request.

As to the Facility:
G. Douglas Loutzenhiser
Director, Environment and Sustainable Development
Arkema Inc.
900 First Avenue
King of Prussia, PA 19406

See attached documents.

7. Please identify the years of operation for the M&T Chemicals facility located in East Chicago, Indiana.

Response: July 1911 – November 1981.

In August 1977, American Can Company, the parent of M&T Chemicals, Inc. (M&T), sold M&T. Prior to the sale, American Can Company spun the metals recovery division of M&T into MRI Corporation. As of August 1977, both M&T and MRI operated at the East Chicago Facility. M&T continued producing electroplating chemicals, and MRI continued the metals recovery business. M&T ceased operations at East Chicago in November 1981. American Can Company and its successors remain liable for costs relating to metals recovery. After a reasonable and diligent search, no documents relating to the metals recovery process were found. It is believed that such documents were transferred to MRI in 1977. Therefore, these responses can only address the processes of M&T.

8. Please describe in general terms the production processes performed by the Company at the Facility.

Response: See attached documents. See response to Request #7 above.

9. Please identify any permits issued by either the United States Department of Environmental Protection Agency or the Indiana Department of Environmental

Management that govern the type or quantity of air emissions by the Company at the Facility.

Response: See attached documents.

10. Please state whether the Company used lead or lead-containing materials in the production process. Please provide the following:

    A. A description of how the Company used lead or lead containing materials in the process;

    B. The years during which the Company used lead or lead-containing materials in the production process;

    C. The quantities of lead or lead-containing materials the Company used annually in the production process;

    D. A description of the processing capacity or throughput of the process using lead or lead-containing materials;

    E. An estimate of the volume of lead or lead-containing material emitted annually into the air.

    Response: See attached documents.

11. Please state whether the Company monitored air emissions from the Facility. If the Company did monitor air emissions from the Facility, please provide the following:

    A. A description of the type of air monitoring performed;

    B. A description of the years during which the Company performed air emissions monitoring;

    C. A description of the results of the air emissions monitoring;

    D. The identity of the person or persons who performed the air emissions monitoring;

    E. A copy of any reports, memoranda, notes, letters or documents referencing the air emissions monitoring or summarizing the results of the air emissions monitoring.

    Response: See attached documents.

12. Please state whether the Company has observed air emissions at the Facility that resulted in a non-attainment event. If the Company has observed air emissions that results in a non-attainment event, please provide the following:

A. The date and time of the non-attainment event;

B. The type of emission that caused the non-attainment event;

C. The duration of the non-attainment event;

D. An estimate of the volume of material released into the air between the time the non-attainment event began and the time it took for the Company to restore operations to attain compliance with air emissions limits;

E. A description of the manner in which the Company determined that a non-attainment event had occurred, and

F. A description of the steps taken by the Company to restore operations to attain compliance with air emissions limits.

Response: To the best of Arkema's knowledge, there were no non-attainment events regarding M&T's operations. See attached documents.

13. Please state whether the Company caused or allowed materials located or generated within the boundaries of the Facility to be used as fill material at a location or locations beyond the boundaries of the Facility. If the Company did not cause or allow materials located or generated within the boundaries of the Facility to be used as fill material at a location or locations beyond the boundaries of the Facility, please provide the following:

A. A description of when materials were removed from the Facility to be used as fill;

B. A description of the type and volume of material removed from the Facility to be used as fill; and,

C. A description of the location or locations where materials located or generated within the boundaries of the Facility were placed for used as fill material.

Response: To the best of Arkema's knowledge, no materials located or generated within the boundaries of the MRI/M&T Facility were used by M&T as fill beyond its boundaries. See attached documents.

THE TIMES
Home Newspaper of the Calumet Region
Wednesday, November 22, 1978 ☆☆☆☆☆4 Sections—15¢

9 Firms Hit for Pollution

By THOMAS FINN
Times Staff Writer

CROWN POINT — Nine major Calumet Region industries will have to spend $1.2 billion over a 20-year period to meet federal standards for sulfur dioxide emissions.

That's the preliminary cost analysis of state air pollution control officials, who released results of a nine-month study Tuesday to representatives of Northwest Indiana industry at a meeting in the Lake County Government Center.

That estimated cost is for selected major sources of sulfur dioxide pollution. The actual cost would be slightly higher to include the expenses of smaller sources — the total cost was not estimated.

State officials are preparing an implementation plan for submittal to the U.S. Environmental Protection Agency by Dec. 31. The plan will outline strategies for meeting tougher air quality requirements contained in the 1977 Clean Air Act.

According to current emission levels, Northwest Indiana industry will be unable to meet standards for sulfur dioxide and particulate matter by the Dec. 31, 1982, deadline.

The state modeling study revealed Tuesday proposed methods and installation of pollution control equipment by which industry can comply with the sulfur dioxide regulations. State officials said industry can use other means, at possibly less cost, as long as the 24-hour, federal standard of 365 micrograms per cubic meter is met.

Certain "hot spots" are now producing up to 2,500 micrograms per cubic meter.

A similar study of particulates is being conducted by the state and will be released soon, according to officials of the state board of health's air pollution control division. One official predicted that controlling particulates to meet the tougher federal standard will involve costs even greater than those for sulfur dioxide. That is because many more companies are violating the particulate standard than are above the sulfur dioxide level, he said.

Steven Dixon, chief of the division's local agency section, said the Calumet Region will incur the heaviest costs of any area in Indiana due to the area's concentration of combustion sources and the magnitude of sulfur dioxide emissions.

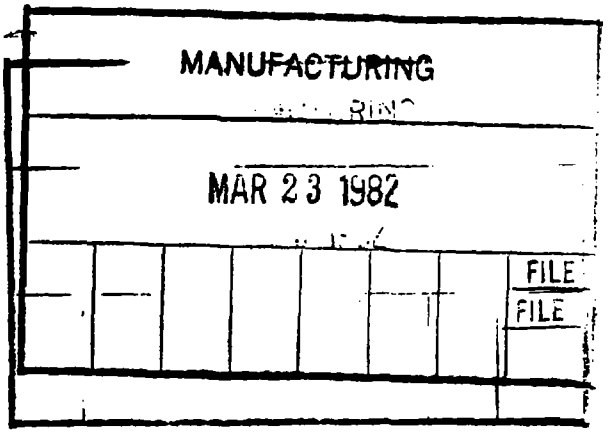
The state estimated nine major industries will spend $59.2 million per year for 20 years. Vigo County, where a lot of coal is burned, had the second highest estimate at $24 million per year, while Marion County's costs were estimated at $7 million annually.

The state figures show Northern Indiana Public Service Co. with the highest estimated cost of $448 million ($22.4 million in each of the 20 years) to meet sulfur dioxide regulations.

Other estimates are: Inland Steel, $266 million; U.S. Steel, $162 million; American Oil, $144 million; Marblehead Lime Co., of Thornton, $64 million; Youngstown Sheet and Tube, $56 million; Energy Cooperative, Inc., $40 million; American Maize Co., $200,000 and M & T Chemical, $100,000.

THIS IS AN ERROR AND REFERS TO THE BOILERHOUSE STACK EXTENSION WHICH WILL BE REQUIRED TO MAKE THE HAMMOND TIMES HAS BEEN CONTACTED.

M&T
CHEMICALS INC.
GENERAL OFFICES
Rahway, New Jersey 07065
(201) 499-0200



CABLE ADDRESS
MANTCHEMS — RAHWAY, N.J.
TWX 710-996-5841
710-996-5842

March 23, 1982

Mr. Ali Khan, Assistant Director
Department of Air Quality Control
City of East Chicago
4818 Indianapolis
East Chicago, IN 46312

Dear Mr. Khan:

Please be advised that effective November 30, 1981, the facilities owned by M&T Chemicals Incorporated, and located at 415 E. 151st Street, East Chicago, IN, have been closed down. All operations at that location have ceased, and all manufacturing equipment has been removed from the premises.

For this reason, the 1981 Emission Inventory sent by your office (received at this office March 19, 1982) is being returned. If you have any further questions, please contact the undersigned at (201)-499-2405.

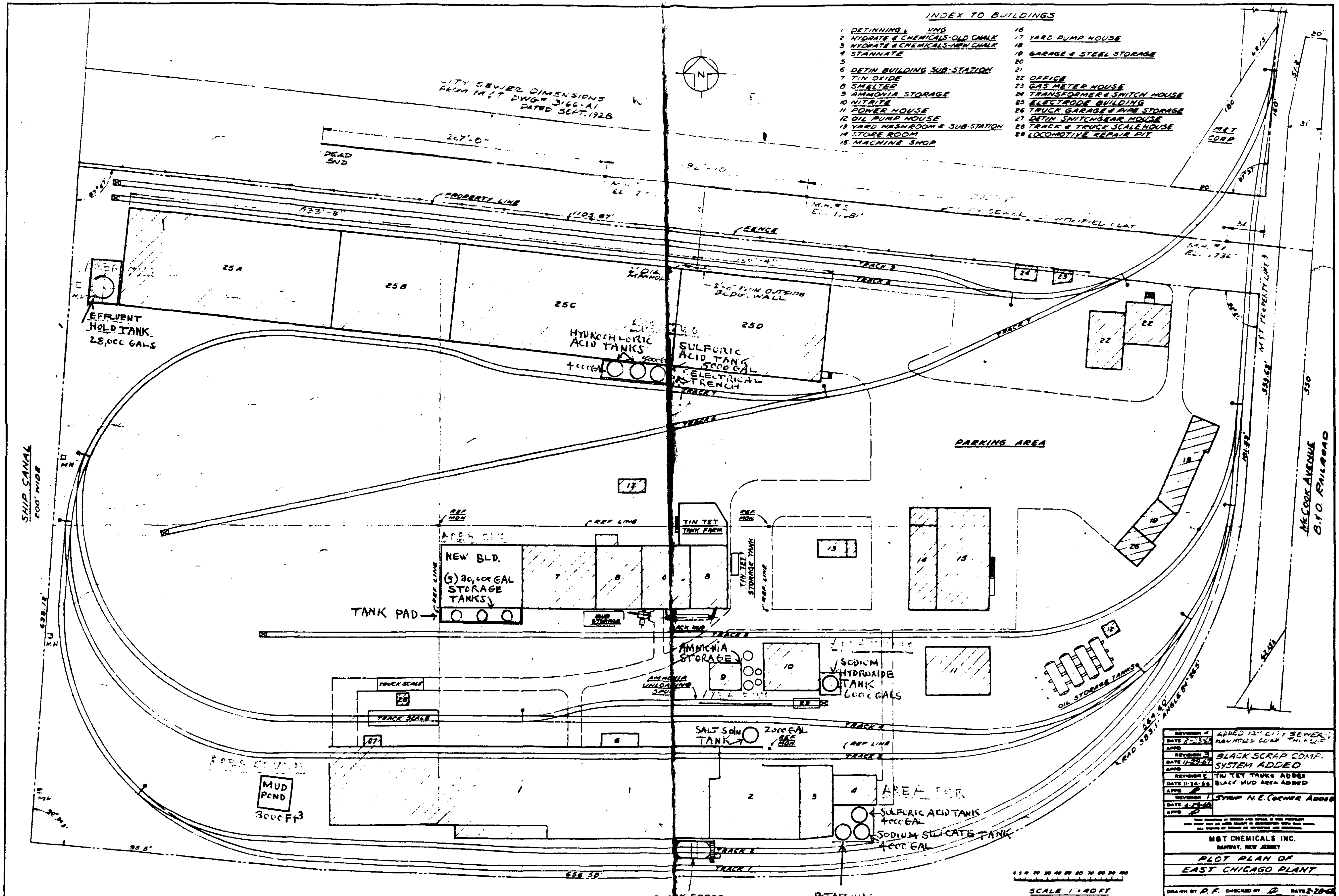
Very truly yours,

M&T CHEMICALS INC.

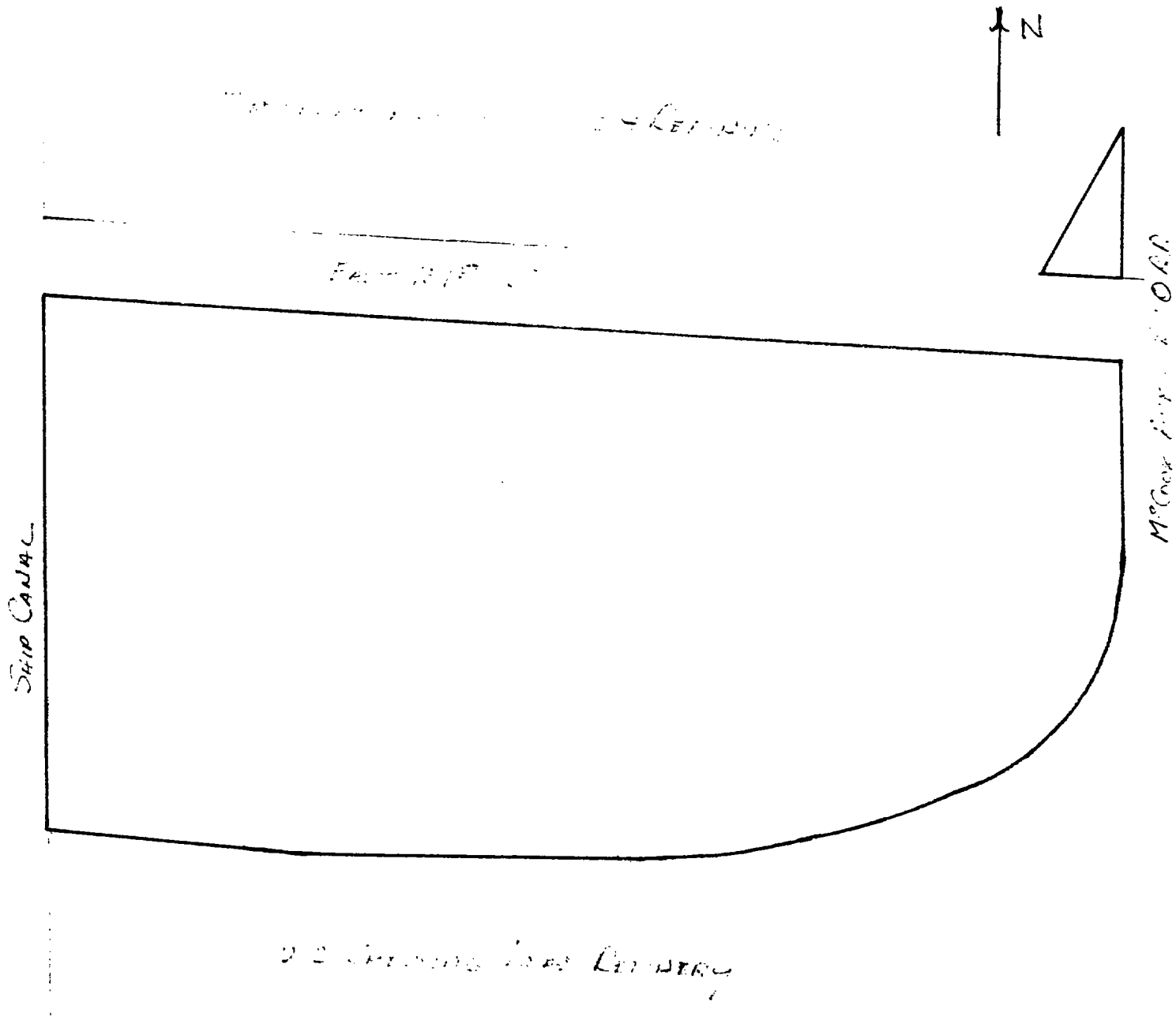
Harry H. Elias
Manager of Environmental Affairs

HHE/jjm

bcc: J. Hockenberry
A. Slesinger



INDEX TO BUILDINGS
1 DETINNING & ...NNG
2 HYDRATE & CHEMICALS-OLD CHALK
3 HYDRATE & CHEMICALS-NEW CHALK
4 STANNATE
5
6 DETIN BUILDING SUB-STATION
7 TIN OXIDE
8 SMELTER
9 AMMONIA STORAGE
10 NITRITE
11 POWER HOUSE
12 OIL PUMP HOUSE
13 YARD WASHROOM & SUB-STATION
14 STORE ROOM
15 MACHINE SHOP
16
17 YARD PUMP HOUSE
18
19 GARAGE & STEEL STORAGE
20
21
22 OFFICE
23 GAS METER HOUSE
24 TRANSFORMER & SWITCH HOUSE
25 ELECTRODE BUILDING
26 TRUCK GARAGE & PIPE STORAGE
27 DETIN SWITCHGEAR HOUSE
28 TRACK & TRUCK SCALE HOUSE
29 LOCOMOTIVE REPAIR PIT
CITY SEWER DIMENSIONS FROM M&T DWG# 3166-A1 DATED SEPT. 1928
267'-0"
DEAD END
PROPERTY LINE
FENCE
M&T CORP
PARKING AREA
SHIP CANAL 200' WIDE
McCOOK AVENUE
B.I.O. RAILROAD
EFFLUENT HOLD TANK 28,000 GALS
HYDROCHLORIC ACID TANKS
SULFURIC ACID TANK 5000 GAL
ELECTRICAL TRENCH
NEW BLD.
(3) 20,000 GAL STORAGE TANKS
TANK PAD
TIN TET TANK FARM
TIN TET STORAGE TANK
AMMONIA STORAGE
AMMONIA UNLOADING SPUR
SODIUM HYDROXIDE TANK 6000 GALS
OIL STORAGE TANKS
SALT SOLN TANK 2000 GAL
MUD POND 3000 Ft³
SULFURIC ACID TANKS 4000 GAL
SODIUM SILICATE TANK 4000 GAL
TRACK 1
TRACK 2
TRACK 3
TRACK 4
TRACK SCALE
TRUCK SCALE
REF LINE
656.58'
SCALE 1" = 40 FT.
REVISION 4 DATE 2-23-?5 ADDED 12" CITY SEWER & MANHOLES
REVISION 3 DATE 11-29-67 BLACK SCRAP COMP. SYSTEM ADDED
REVISION 2 DATE 11-24-66 TIN TET TANKS ADDED BLACK MUD AREA ADDED
REVISION 1 SCRAP N.E. CORNER ADDED
M&T CHEMICALS INC.
RAHWAY, NEW JERSEY
PLOT PLAN OF
EAST CHICAGO PLANT
DRAWN BY P. F.



PLOT SKETCH
E. CHICAGO, ILL.

NOTE. NOT DRAWN ACCURATELY

AGREEMENT OF SEPARATION dated August 31, 1977, between M & T CHEMICALS INC., a Delaware corporation (hereinafter called the "Transferor"), and MRI CORPORATION, INC., a Delaware corporation (hereinafter called the "Transferee").

The Transferor, through its metals recovery division (hereinafter called the "Metals Recovery Division"), is presently engaged in the business of detinning and dealuminizing can scrap and waste and post-consumer cans and reclaiming and recycling other materals. In connection therewith, the Transferor is desirous of reorganizing its Metals Recovery Division as a separate wholly-owned subsidiary and effecting a tax-free exchange in accordance with Section 351 of the Internal Revenue Code of 1954, as amended.

In order to effect such exchange, the Transferor is subscribing for 1,000 shares of Common Stock, $.25 par value (the "Common Stock"), of the Transferee and transferring, assigning and delivering to the Transferee all the business and certain assets, properties and rights of the Metals Recovery Division, subject to the assumption by the Transferee of certain liabilities and obligations of the Transferor, all upon the terms and conditions hereinafter set forth.

(iv) The costs of the Baltimore work shall be borne as provided on Schedule L attached hereto.

(i) Plans and specifications for the Baltimore Work shall be subject to the prior approval of the Transferee, which approval shall not be unreasonably withheld. In the event that the Transferor and the Transferee are unable to agree upon such plans and specification, the matter shall be resolved by arbitration as herein provided.

(j) The Transferor shall proceed diligently and expeditiously to complete the Baltimore Work as soon as reasonably practicable. The Baltimore Work shall be performed by the Transferor in a good and workmanlike manner, and in substantial conformity and compliance with any and all zoning, building, fire, health and other requirements of any governmental agency, public utility or fire underwriter applicable thereto and the plans and specifications referred to in Section 4(i) hereof.

5. Separation of Joint Operations Conducted at East Chicago, Indiana. (a) The Transferor owns a parcel of improved land located at 151st Street, in the City of East Chicago, Lake County, Indiana (hereinafter called the "E. Chicago Facility"), containing approximately fifteen and one-half (15.5) acres, more or less, generally outlined on Exhibit E attached hereto. The Transferor is transfering, assigning and conveying simultaneously herewith the E. Chicago Metals Recovery Property (identified as Parcel 2 on Exhibit D-1) to the Transferee by the filing of a deed in the form of Exhibit D attached hereto (the plat that is

attached thereto is designated Exhibit D-1).

(b) The Transferor and its agents, contractors and subcontractors shall have the right to enter upon the E. Chicago Metals Recovery Property at all reasonable times for the purpose of performing all E. Chicago Work (as defined in Section 5(c) hereof).

(c) The Transferor shall perform the following work ("E. Chicago Work"):

(i) Separate those utility facilities as set forth on Exhibit E attached hereto in such a way that the E. Chicago Metals Recovery Property shall continue to be adequately served by such utilities; and

(ii) Repair any and all damage to the improvements on the E. Chicago Metals Recovery Property caused in the course of the E. Chicago Work.

(iii) The costs of the E. Chicago Work shall be borne as provided on Schedule M attached hereto.

(d) Plans and specifications for the E. Chicago Work shall be subject to the prior approval of the Transferee, which approval shall not be unreasonably withheld. In the event that the Transferor and the Transferee are unable to agree upon such plans and specifications, the matter shall be resolved by arbitration as herein provided.

(e) The Transferor shall proceed diligently and expeditiously to complete the E. Chicago Work as soon as reasonably practicable. The E. Chicago Work shall be performed by the Transferor in a good and workmanlike manner,

free of any defects in materials or design and in conformity and compliance with any and all zoning, building, fire, health and other requirements of any governmental agency or fire indemnity applicable thereto and in accordance with the plans and specifications referred to in Section 5(d) above.

6. Lease of Baltimore Metals Recovery Property. During the period from the date hereof up to and including the date of the filing and recording of the Baltimore Deed the Transferor shall let and demise to the Transferee the Baltimore Metals Recovery Property on the following terms:

Term: Until the earlier of the filing of the Baltimore Deed, or until the Transferor and the Transferee agree upon an alternative method of operation or separation (i.e., permanent leasing arrangement).

Rent: None.

Costs: Transferee to pay to Transferor a pro rata portion of real estate taxes, insurance and operating costs relating to the Baltimore Metals Recovery Property on the same basis as allocated prior to the date hereof.

7. Services. (a) The services to be provided by the Transferee to the Transferor at the Baltimore Facility include the following:

(i) Water (until Transferor obtains its own water supply).

(ii) Liquid caustic on a metered basis.

SCHEDULE C

M&T CHEMICALS INC.
M&T ASSETS LOCATED ON MR PROPERTY
AS/AT 12/31/76

LOCATION	DESCRIPTION	ITEM #	YEAR	COST	RBV
East Chicago	Tolhurst Centrifuge	LD-164-8	1975	$ 46,164	$ 43,856
East Chicago	Direct Tin Reactor	LD-851-26	1976	24,923	24,923
East Chicago	Direct Tin System	LE-690-75	1976	3,903	3,903
East Chicago	Direct Tin System #2 (Including Reactor & Associated Equipment)	DS-851-25	1974	24,403	21,963
East Chicago	Stannate Transfer Piping	KN-956-22	1975	13,159	12,501
East Chicago	Tin Flaker	DO-354-3	1976	4,333	4,333
		TOTAL		$116,885	$111,470

1977 ACQUISITIONS

East Chicago	Platform Scale	LA-744-15	1977	$ 1,810
East Chicago	Agitator	LA-557-14	1977	1,307
East Chicago	Tin Conveyor	Not yet Capitalized	1977	2,500

(8/26/77)

M&T CHEMICALS INC.
MR ASSETS LOCATED ON M&T PROPERTY
AS AT 12/31/77

Location	Description	Item No.	Year	Original Cost	RBV*
East Chicago	Drum Grabs.	11-DB-110-4	73	$ 339	$ -
	Sludge Hopper	-144-5	73	504	-
	Sludge Hopper	-144-6	73	504	-
	Sludge Hopper	-144-7	73	504	-
	Magnetic Separator	-166-3	75	3,088	-
	Ni Digestor Condensor	-210-5	73	3,173	-
	Revise Sludge Feed Crane	-244-11	73	1,605	
	Product Filter Press	-328-4	73	298	-
	Decant Discharge Filter	-330-12	73	85	-
	Product Rotary Vacuum Filter	-330-13	73	25,533	-
	Sludge Bolt Conveyor	-330-13.1	73	1,687	-
	Ion Exchanger	-330-14	73	1,126	-
	Ion Exchange Resin	-330-14.1	73	735	-
	Product Polish Filter	-330-15	73	994	-
	Prod. Vac. Filter Feed Pump	-690-72	73	1,009	-
	Glacial Acetic Acid Pump	-690-73	73	222	-
	Drum Flush Pump	-696-35	73	1,192	-
	Slurry Transfer Pump	-690-45	73	747	-
	Decant Discharge Pump	-696-46	73	613	-
	Transfer Pump	-696-47	73	801	-
	Ni Recovery Sump Pump	-696-48	73	1,057	-
	Ni Recovery Vent Scrubber	-755-2	73	36	-
	Floor Acid Proofing	-796-3	73	3,744	-
	Ni Recovery Steel Platforms	-802-6	73	13,456	-
	Pre-Slurry Tank	-841-43	73	530	-
	Pre-Slurry Tank Agitator	-841-43.1	73	895	-
	Pre-Treat Tank	-841-44	73	1,592	-
	Pre-Treat Tank Agitator	-841-44.1	73	2,007	-
	Decant Hold Tank	-841-45	73	1,502	-
	Carbon Treatment Tank	-841-46	73	675	-
	Carbon Treatment Tank Agitator	-841-46.1	73	140	-
	Ni Digestor	-841-47	73	12,321	-
	Ni Digestor Agitator	-841-47.1	73	3,458	-
	Ni Digestor Light	-841-47.2	73	209	-
	Condensate Receiver	-844-46	73	1,760	-
	Cake Wash Receiver	-844-47	73	1,760	-
	Product Storage Tank	-844-48	73	2,473	-
	Ni Recovery Electrical	-940-36	73	3,988	-
	Lighting	-948-47	73	1,144	-
	Ni Recovery Piping	-956-18	73	29,034	-
	Ni Recovery Ventilation	-950-8	73	2,918	-
	TOTALS			$120,817	$ -

* Remaining Book Value - These assets have been written-off. No cost or depreciation is maintained in the accounting records.

7/20/77

EAST CHICAGO UTILITIES

Item	Controlling Co.	Method of Distribution	Action Necessary
a. Water & Sewage	ACC	ACC will bill M&T based upon metered usage and actual cost.	Meter must be installed.
b. Electrical Power	ACC	ACC will bill M&T on the basis of actual cost and metered usage to B-25, except that the charge will include a factor for transmission loss through step down transformer. Any power factor penalty or demand charge will be excluded from M&T cost.	Meter must be installed. Electrical company must advise a reasonable power loss factor through step down transformer.
c. Gas	M&T	M&T will bill ACC on the basis of actual unit cost charged by utility and metered usage. Any curtailment of firm gas will result in allocation to both companies on historical usage basis.	Meters must be installed.
d. Compressed Air	ACC	No provision for billing. To be provided to M&T on an informal basis without charge.	None
e. Telephone		Unresolved.	Plant to get telephone company recommendations.

Exhibit E

EXHIBIT H

SALARIED EMPLOYEES TRANSFERRED TO METALS RECOVERY

BALTIMORE	
Marzola, V.	Accountant B
Cage, D.	Payroll Clerk
Harvey, H.	Plant Secretary
Rush, R.	Plant Manager
Phillips, C.	Plant Engineer
Shears, W.	Maintenance Foreman
Collins, P.	Maintenance Clerk
Simeone, R.	General Foreman
White, D.	Detinning Foreman
Hall, B.	Shift Foreman
CHANDLER	
Mehren, J.	Plant Manager
DEMING	
Kleber, M.	Laboratory Technician
Dominguez, V.	Production Foreman
Forbes, L.	Plant Manager
E. CHICAGO	
Simatovich, M.	Secretary
Moore, J.	Weighmaster
Musick, H.	Storekeeper
Kellis, J.	Sr. Accounting Clerk
Sweeney, C.	Accounting Clerk
Padilla, R.	Clerk Typist
Poi, E.	Payroll Clerk
Kotarski, M.	Switchboard Operator
Ward, L.	Plant Manager
Walthes, T.	Production Supervisor
Yancy, P.	General Foreman
Botts, R.	Shift Foreman

(Continued)

E. CHICAGO (Cont'd.)

J. Pearson	Shift Foreman
T. Kubistal	Chemical Foreman
D. Harris	Yard Foreman
D. Hill	
E. W. Brightbill	Plant Engineer
H. Metcalf	
C. Lauerman	

SEATTLE	CDE
J. Force	5-23-75
D. Trantow	1-30-67

ELIZABETH

J. Brzozowski	7-6-50
J. Cioffi	9-21-70
E. Fitzpatrick	3-8-48
K. Kalvaitas	10-1-73
E. Karasiewicz	9-26-47
J. Kravitz	11-1-75
J. Mazur	3-18-55
V. Simons	7-11-72
J. Mosley	12-1-75

HOURLY

EAST CHICAGO METALS RECOVERY

EMPLOYEES BY DATE OF HIRE

EMPLOYEE NAME	DATE OF HIRE
J. Truhn	3/37
E. Wrona	9/38
S. Tyszka	9/40
A. Kaniuk	1/41
G. Bodnar	2/41
W. Ritter	1/41
C. Shaffer	8/41
A. Prokopcio	8/50
I. Sims	12/50
L. Hollis	3/51
J. Winslett	10/52
T. Winslett	10/52
E. Coty	12/52
A. Walker	9/53
D. Signorelli	4/54
J. Bell	9/54
C. Howisen	4/56
T. Smith	4/57
J. Sheckles	7/57
E. Alspach	7/57
M. Gilbert	9/57
B. Csomo	5/61
C. Oakley	8/61
L. Carter	9/61
R. Wisler	5/62
L. Austin	5/64
J. Marion	1/67
J. Smith	4/67
E. Eisenhutt	8/67
M. Meade	9/67
J. Riddle	12/68
S. Grkinich	3/69
C. Mysliwy	5/70
C. Bryson	1/71
V. Burns	7/72
J. Randolph	8/72
E. Austin	9/72
W. Bebenek	1/73
O. Herrera	3/73
O. Allen	3/73
R. Ferguson	6/73
J. Kish	7/73
T. Gass	8/73
F. Kraly	8/73
C. Merrick	1/74
L. Ryan	4/74
J. Brooks	2/75
Q. Hardy	7/75
R. Reed	8/75

HOURLY - East Chicago Metals Recovery

EMPLOYEE NAME	DATE OF HIRE
E. Wilson	2/76
J. Duncan	2/76
G. Koleski	3/76
P. Griffin	9/76
A. Upshaw	4/77
G. Loveless	4/77
L. Willet	5/77
J. Summerlott	6/77
A. Meyer	6/77
R. Gerardo	6/77
J. Fornal	7/77
R. Roberson	8/77

(8/26/77)

File East Chicago

M&T CHEMICALS INC.
SUBSIDIARY OF AMERICAN CAN COMPANY
CENTRAL ANALYTICAL DEPT. REQUEST FORM

☐ CHEMICAL ☐ INSTRUMENTAL ☐ SPECIAL

COST CENTER NO.

DATE	NAME	UNIT	LOCATION	APPROVED BY	PROJECT NO.
1/15/75	Mallonee	C.S. & E.T.	Refinery		

SAMPLE IDENTIFICATION

Sin Discharge Before Lagoon

REMARKS & HAZARDS

1 pint sample
FILTER FIRST

ANAL. DEPT. NO.	SUBMITTERS CODE NO.	DETERMINATION & RANGE	RESULTS, CHART NO. and INTERPRETATION
		CN As	Cn is 20.0 ppm Filtered 19.0 ppm.
		Sn pH	Sn filtered 2.98 g/100 ml
	1.9 ppm ←	Sb Pb	Sulfate = 3476 mg/l.
		NH3 Ni	Nitrate = 2851 mg/l (color interfers)
		NO3	
		NO2	
		Cd	
		Fe	
		COD	103489 mg/l.
		Total Cyanide	Inconclusive Probably 4560 mg/l.

DO NOT WRITE BELOW THIS LINE

WORK PERFORMED	UNIT TIME HOURS	NO DETS.	TOTAL HOURS	COST PER HOUR	TOTAL COST

Date Received _____ Date Reported _____ Analytical Supervisor _____

WHITE – ORIGINAL – ANALYTICAL DEPARTMENT
CANARY – REPORT TO ORIGINATOR
PINK – ACCOUNTING
GOLD – ACKNOWLEDGEMENT TO ORIGINATOR

0601 06002

MBT
CHEMICALS INC.
415 EAST 151ST STREET EAST CHICAGO INDIANA 46312
(312) 375-1400

January 22, 1979

The East Chicago Sanitary District
5200 Indianapolis Blvd
East Chicago, Indiana 46312

ATTN: Mr Daniel R. Olson, Chief Chemist

Per our phone conversation of January 22, 1979, I am listing the raw materials used and the products manufactured at East Chicago:

Raw Materials

Sodium Stannate
Potassium Stannate
Carbon Dioxide Gas
Glacial Acetic Acid
Copper Sulfate
Caustic Soda
Soda Ash
Sodium Bisulfate
Tin Metal
Nickel Oxide
Hydrochloric Acid
Sulfuric Acid
Tetrapotassium Pyrophosphate

Finished Product

Plating Brighteners
Tin-Sol
Metal Cleaners
Tin Anodes
Nickel Chemicals
Copper Pyrophosphate

Sincerely,
Bill M. Cummings
Bill M. Cummings
Technical Supervisor

CC: Mike Carr, Plant Manager

M & T 1510

M&T Chemicals Inc.

PRINTED IN U.S.A.

INTERNAL CORRESPONDENCE

SUBSIDIARY OF AMERICAN CAN COMPANY

TO	DEPARTMENT	LOCATION	ROUTE TO
MR. A. WASSER MR. B. W. WEBER		RAHWAY GEN. OFFICE PICO RIVERA	
FROM MR. W. L. GERMAIN	**DEPARTMENT** METALS RECOVERY	**LOCATION** EAST CHICAGO PLANT	
SUBJECT NICKEL CHLORIDE FUME SCRUBBER			**DATE** 1-16-74

Bill Shefcik has provided the following information on the fume scrubber currently in use on our nickel chloride reactor:

The scrubber is a Heil Model 702 Fume Scrubber. This was transferred here from Matawan. We have no information here as to its internal construction. Apparently at Matawan, scrubbing solution (caustic or water) was recirculated through the scrubber from a 200 gal. PVC lined tank. At East Chicago, fresh water is used which is discharged directly to the sewer. The scrubber appears to be fairly effective. At times we have noted Cl_2 fumes outside the building, but it is not known if this was due to failure to turn on the scrubbing water. The scrubber should also work better using caustic rather than water. The scrubber is rated at 2000 CFM, and uses a 1½ HP blower. There should be some representatives from Heil on the west coast who can supply further information.

If you have any further questions, please let me know, or contact Bill Shefcik directly.

W L Germain

WLG:MS

M&T Chemicals Inc.
SUBSIDIARY OF AMERICAN CAN COMPANY

GENERAL OFFICES, RAHWAY, NEW JERSEY 07065

bcc: W. L. Germain - E. Chicago
W. P. Shefcik - E. Chicago
L. D. Taylor - RGO

December 3, 1973

Dr. Robert G. Shaver
Vice President & Division Manager
General Technologies Corporation
6621 Electronic Drive
Springfield, Virginia 22151

Dear Dr. Shaver:

Your letter of September 28, 1973 to our Senior Process Engineer, Mr. W. P. Shefcik, at our East Chicago Plant was forwarded to my attention. You will recall that this letter referred to our Stannic Oxide manufacture and asked for a review of the technical accuracy of the draft and requested comments.

Mr. Shefcik has indicated that your description of our process is essentially accurate, and the only correction he has recommended is on the last page - the flow sheet. Your schematic contains extra steps that are not in our basic process and the revised flow sheet is attached for your report.

In addition, we are also submitting the data for your similar study of our Nickel Sulfate process. Please note that the composition of the discharge stream is identical with that submitted for the Tin Oxide process. This is simply because this stream is the effluent composite from the entire plant. There is no segregation of the discharges from separate processes. Based on the Nickel Sulfate flow sheet, however, you will note that the waste water from this process is practically nil - consisting only of the washing down of the filter press after scraping off the cake.

At this point, we would like to again emphasize the proprietary nature of the information submitted - both for SnO_2 and $NiSO_4$. While you have mentioned that our East Chicago Plant would be identified only by some random code number in your report, we believe our processes would be recognized by those in the industry. We, therefore, urge that you observe the necessary precautions to preserve the confidential nature of the data and not divulge any of it indiscriminately to unauthorized personnel. Thank you.

Sincerely,

M&T CHEMICALS INC.

ACW:cao
Attachments

Arnold C. Wasser
Manager of Quality & Environmental Control

GENERAL TECHNOLOGIES CORPORATION
6621 Electronic Dr., Springfield, Va. 22151 (703) 354-3350

12 November 1973

304-E-200

Mr. Arnold C. Wasser
Manager of quality and
Environmental Control
M&T Chemicals, Inc.
P. O. Box 1104
Rahway, New Jersey 07065

Dear Mr. Wasser:

Enclosed is a draft cost effectiveness development for your stannic oxide plant. Please review this for:

1) technical accuracy of plant information such as production rates, waste loads, and water rates;

2) technical feasibility of treatment models, pollutant reductions and comments on alternative models or reduction levels;

3) comments on any special process, waste-load, or other factors specific to your plant that would affect the treatment costs and/or make them non-representative;

4) comments and contributions to cost estimates presented.

The models and cost development details are confidential to you and to us, and are forwarded only to your attention. Only the cost-effectiveness sheet will be included in our public report to EPA. The detailed model and cost developments as modified by your input and ours will be forwarded to EPA under the same confidentiality as any "company-confidential" secret information that you may have submitted previously.

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

Mr. Arnold C. Wasser
M&T Chemicals, Inc.

12 November 1973
304-E-200

We would appreciate a reply at your earliest convenience. Our report to EPA is due at the end of this month and we need approximately two weeks for review and revision. Thank you for your assistance in this matter.

Very truly yours,

GENERAL TECHNOLOGIES CORPORATION
A Division of Versar Inc.

C. Leon Parker

Dr. C. Leon Parker
Environmental Scientist

CLP:jkd

Enclosures

STANNIC OXIDE
PLANT 494

Treatment or Control Technologies Identified under Item III of the Scope of Work:

	A	B		
Investment $/ANNUAL TON OF PRODUCTION	31.80	700.00		
Annual Costs: $/TON PRODUCED				
INTEREST + TAXES + INSURANCE (5% OF CAPITAL INVESTMENT)	1.59	35.00		
Depreciation (10% OF CAPITAL INVESTMENT)	3.18	70.00		
Operating and Maintenance Costs (excluding energy and power costs)	0.61	140.00		
Energy and Power Costs	—	—		
Total Annual Cost $/TON PRODUCED	5.38	245.00		

Effluent Quality:

Effluent Constituents Parameters (Units) KG/METRIC TON (LB/TON)	Raw Waste Load	Resulting Effluent Levels		
SULFURIC ACID	25(50)	0 (0)	0 (0)	
SODA ASH	3250(6500)	3250(6500)	3250(6500)	
SODIUM SULFATE	36(72)	36(72)	36(72)	
OIL + GREASE	25(50)	2.5* (5)	2.5* (5)	
PHENOLICS	0.015(0.03)	0 (0)	0 (0)	
SOLID WASTES	NOT KNOWN	0 (0)		
TOTAL SUSPENDED SOLIDS	200(400)	~5** (~10)**	~5** (~10)**	

* 90% REMOVAL

** ROUGH ESTIMATE

LEVEL A- POND AND TANK SETTLING OF SUSPENDED SOLIDS, FOLLOWED BY DISCHARGE TO MUNICIPAL SEWER. SOLID WASTES ARE SOLD FOR TIN VALUE.

LEVEL B- CHEMICAL TREATMENT, AIR FLOTATION AND CARBON ADSORPTION TO REMOVE ORGANICS. ALTERNATIVE TREATMENT TO SAME EFFLUENT QUALITY AS LEVEL A.

STANNIC OXIDE
PLANT 494

Treatment or Control Technologies Identified under Item III of the Scope of Work:

	A	B	E
Investment $/ANNUAL TON OF PRODUCTION	31.80	700.00	
Annual Costs: $/TON PRODUCED			
INTEREST + TAXES + INSURANCE (5% OF CAPITAL INVESTMENT	1.59	35.00	
Depreciation (10% OF CAPITAL INVESTMENT)	3.18	70.00	
Operating and Maintenance Costs (excluding energy and power costs)	.61	140.00	
Energy and Power Costs	—	—	
Total Annual Cost $/TON PRODUCED	$5.38	$245.00	

Effluent Quality:

Effluent Constituents Parameters (Units)	Raw Waste Load	Resulting Effluent Levels				
SULFURIC ACID	25 (50)	0	(0)	0	(0)	
SODA ASH	3250 (6500)	3250	(6500)	3250	(6500)	
SODIUM SULFATE	36 (72)	36	(72)	36	(72)	
OIL & GREASE	25 (50)	2.5*	(5)*	25*	(5)*	
PHENOLICS	.015 (.03)	0	(0)	0	(0)	
TOTAL SUSPENDED SOLIDS	200 (400)	~15**	(~10)**	~5**	(~10)**	
SOLID WASTES	NOT KNOWN	0	0			

LEVEL A — POND AND TANK SETTLING OF SUSPENDED SOLIDS, FOLLOWED BY DISCHARGE TO MUNICIPAL SEWER. SOLID WASTES ARE SOLD FOR TIN VALUE

*-90% REMOVAL
** ROUGH ESTIMATE

LEVEL B — CHEMICAL TREATMENT, AIR FLOTATION AND CARBON ADSORPTION TO REMOVE ORGANICS. ALTERNATIVE TREATMENT TO SAME EFFLUENT QUALITY AS LEVEL A.

LEVEL A

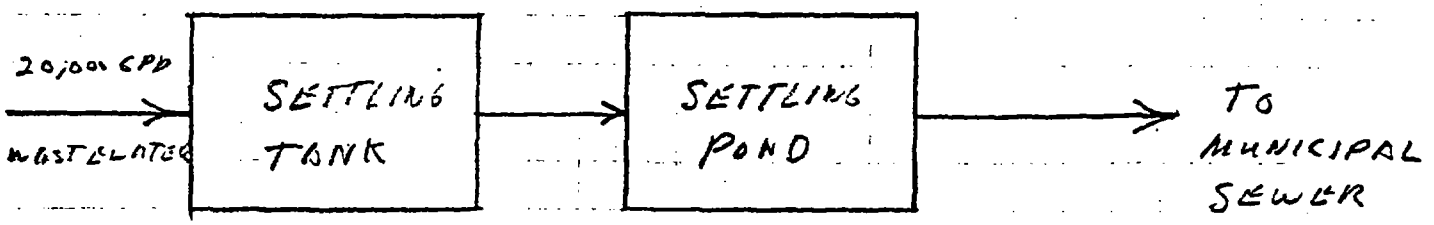
STANNIC OXIDE

PLANT 494

PRODUCTION RATE = 0.45 x 365 = 164 TONS/YR

WASTEWATER VOLUME = 20,000 GPD

TREATMENT MODEL



CAPITAL COSTS

TANK (FOR ENTIRE PLANT)	= $25,000	(1973 PRICES)
POND (FOR ENTIRE PLANT)	= 10,000	(1973 PRICES)
TOTAL	$35,000	

PRORATED ON ROUGH OIL AND GREASE - BALANCE ~

APPROXIMATELY 15% OF TOTAL WASTEWATER COMES FROM THIS STANNIC OXIDE FACILITY

COST = $5200 OR 5200/164 = $31.80/TON

OPERATING COSTS

OVERALL PLANT OPERATING COSTS = $700/YR

COSTS FOR SnO_2 PLANT = 700 x .15 = ~$100/YR

OR $\frac{100}{164}$ = $.61/TON

LEVEL B

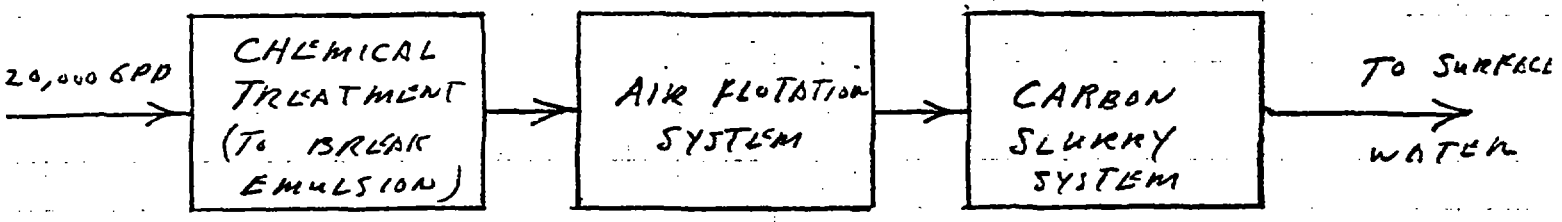
STANNIC OXIDE

PLANT 494

PRODUCTION RATE = 164 TON/YR

WASTE WATER VOLUME = 20,000 GPD

TREATMENT MODEL



CAPITAL COSTS (GTC ROUGH ESTIMATE)

CHEMICAL TREATMENT	= $10,000
AIR FLOTATION	= 50,000
CARBON SYSTEM (TANK + FILTER)	= 25,000
TIE-INS, ENGINEERING, ADMINISTRATION	= 30,000

TOTAL CAPITAL COSTS = $115,000 or $\frac{115,000}{164}$ = $700/TON

OPERATING COSTS

AT 20 % OF CAPITAL = $\frac{\$23000}{164}$ = $140/TON

STANNIC OXIDE
PLANT 494

Treatment or Control Technologies Identified under Item III of the Scope of Work:

	A	B		
Investment $/ANNUAL TON OF PRODUCTION	31.80	700.00		
Annual Costs: $/TON PRODUCED INTEREST + TAXES + INSURANCE (5% OF CAPITAL INVESTMENT)	1.59	35.00		
Depreciation (10% OF CAPITAL INVESTMENT)	3.18	70.00		
Operating and Maintenance Costs (excluding energy and power costs)	0.61	140.00		
Energy and Power Costs	—	—		
Total Annual Cost $/TON PRODUCED	5.38	245.00		

Effluent Quality:

Effluent Constituents Parameters (Units) KG/METRIC TON (LB/TON)	Raw Waste Load	Resulting Effluent Levels		
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** ROUGH ESTIMATE

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LEVEL B- CHEMICAL TREATMENT, AIR FLOTATION AND CARBON ADSORPTION TO REMOVE ORGANICS. ALTERNATIVE TREATMENT TO SAME EFFLUENT

STANNIC OXIDE
PLANT 494

Treatment or Control Technologies Identified under Item III of the Scope of Work:	A	B	C	D	E
Investment $/ANNUAL TON OF PRODUCTION	31.80		$700.00		
Annual Costs: $/TON PRODUCED					
INTEREST + TAXES + INSURANCE (5% OF CAPITAL INVESTMENT	1.59		35.00		
Depreciation (10% OF CAPITAL INVESTMENT)	3.18		70.00		
Operating and Maintenance Costs (excluding energy and power costs)	.61		140.00		
Energy and Power Costs	—		—		
Total Annual Cost $/TON PRODUCED	$5.38		$245.00		

Effluent Quality:

Effluent Constituents Parameters (Units)	Raw Waste Load	Resulting Effluent Levels				
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SOLID WASTES	NOT KNOWN	0	0			

LEVEL A — POND AND TANK SETTLING OF SUSPENDED SOLIDS, FOLLOWED BY DISCHARGE TO MUNICIPAL SEWER. SOLID WASTES ARE SOLD FOR TIN VALUE

LEVEL B — CHEMICAL TREATMENT, AIR FLOTATION AND CARBON ADSORPTION TO REMOVE ORGANICS. ALTERNATIVE TREATMENT TO SAME EFFLUENT QUALITY AS LEVEL A.

*-90% REMOVAL

** ROUGH ESTIMATE

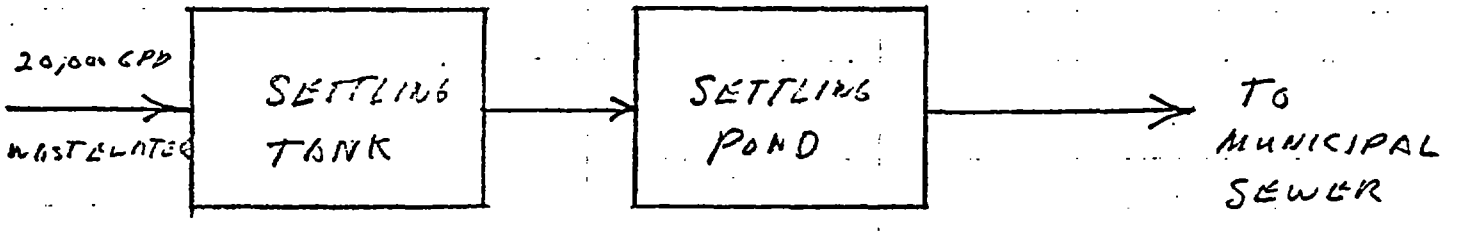
STANNIC OXIDE

PLANT 494

PRODUCTION RATE = 0.45 x 365 = 164 TONS/YR

WASTEWATER VOLUME = 20,000 GPD

TREATMENT MODEL



CAPITAL COSTS

TANK (FOR ENTIRE PLANT)	= $25,000	(1973 PRICES)
POND (FOR ENTIRE PLANT)	= 10,000	(1973 PRICES)
TOTAL	$35,000	

PRORATED ON ROUGH OIL AND GREASE - BALANCE IN

APPROXIMATELY 15% OF TOTAL WASTEWATER COMES FROM

THIS STANNIC OXIDE FACILITY

COST = $5200 OR 5200/164 = $31.80/TON

OPERATING COSTS

OVERALL PLANT OPERATING COSTS = $700/YR

COSTS FOR SnO_2 PLANT = 700 x .15 = ~$100/YR

OR $\frac{100}{164}$ = $.61/TON

LEVEL B

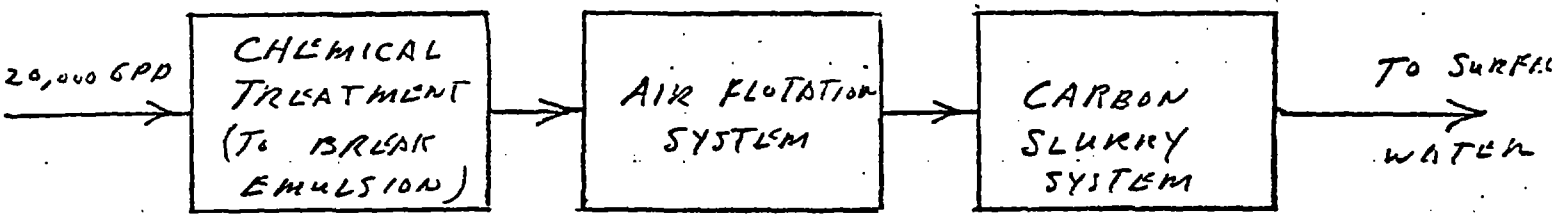
STANNIC OXIDE

PLANT 494

PRODUCTION RATE = 164 TON/YR

WASTE WATER VOLUME = 20,000 GPD

TREATMENT MODEL



CAPITAL COSTS (GTC ROUGH ESTIMATE)

CHEMICAL TREATMENT	= $10,000
AIR FLOTATION	= 50,000
CARBON SYSTEM (TANK + FILTER)	= 25,000
TIE-INS, ENGINEERING, ADMINISTRATIVE	= 30,000

TOTAL CAPITAL COSTS = $115,000 or $\frac{115,000}{164}$ = $700/to

OPERATING COSTS

AT 20 % OF CAPITAL = $\frac{\$23,000}{164}$ = $140/TON

PLANT WASTE ANALYSIS

COMPANY M&T Chemicals Inc.

PLANT AGE 60 years

PLANT LOCATION East Chicago, Indiana

TONS/DAY (Cap.) 5.76

(Aver.) 4.61

PRODUCT(S) Nickel Sulfate, Liquid

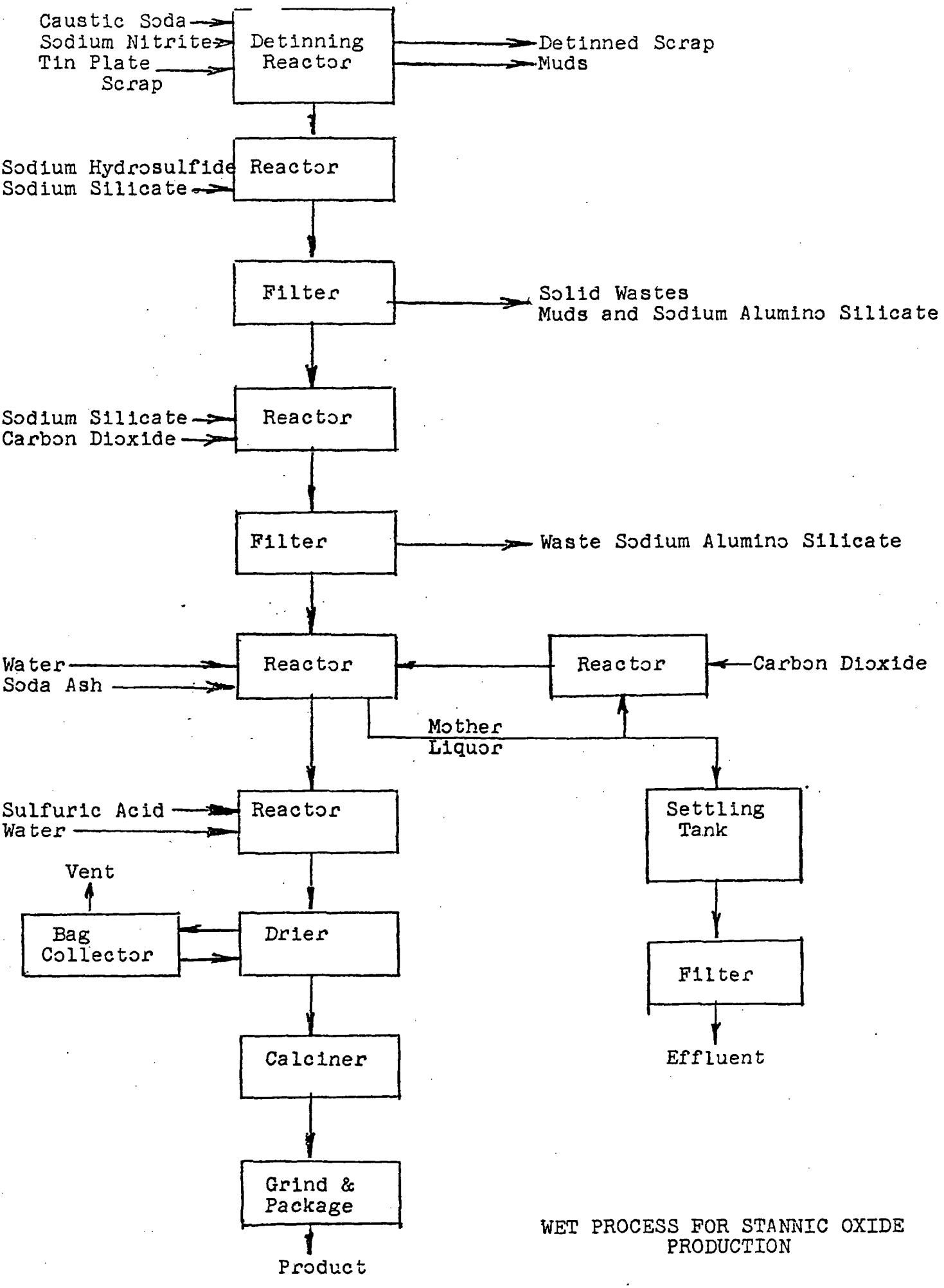
DATE September 26, 1973

IS THIS A STANDARD PROCESS FACILITY?

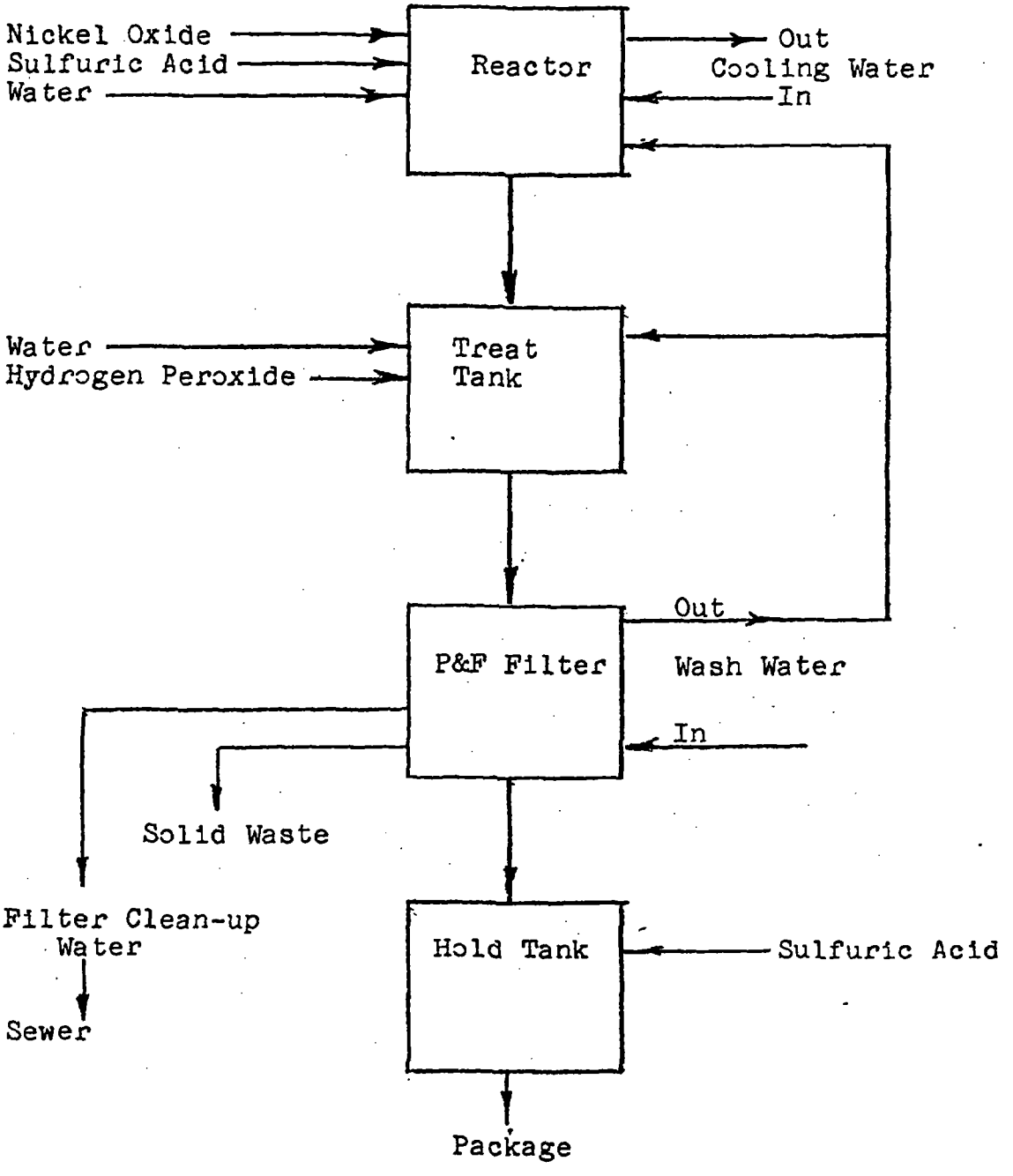
YES X NO

PROCESS FLOW DIAGRAM (SCHEMATIC)
(Please include location of waste streams)

SEE ATTACHED



WET PROCESS FOR STANNIC OXIDE PRODUCTION



LIQUID NICKEL SULFATE FLOW SHEET

M & T 1510

M&T Chemicals Inc.

PRINTED IN U.S.A.

INTERNAL CORRESPONDENCE

SUBSIDIARY OF AMERICAN CAN COMPANY

ROUTE TO

TO	DEPARTMENT	LOCATION
W. L. Germain		East Chicago

FROM	DEPARTMENT	LOCATION
A. C. Wasser	Eng'g. & Mfg. Services	Rahway

SUBJECT: GENERAL TECHNOLOGIES CORPORATION STUDY OF NICKEL SULFATE

DATE: 9/26/73

Confirming our discussion, the General Technologies Corporation is under contract to the Federal EPA to define waste loads, treatments, and water borne effluents of 48 inorganic chemicals including Nickel Sulfate (see copy of their letter to me dated September 20, 1973).

We have completed the attached form outlining the data requested. Please examine the information supplied to insure that it is consistent with the East Chicago information.

When one of their engineers visits the East Chicago Plant on October 10, 1973, you should be prepared to submit this completed form on the plant waste analysis. If you have any questions concerning the data included, please phone me before October 10, 1973.

A. C. Wasser

ACW:cao
Attachment
cc: Letter Only
L. D. Taylor - Rahway

GENERAL TECHNOLOGIES CORPORATION

6621 Electronic Drive, Springfield, Virginia 22151 (703) 354-3350

20 September 1973

304-E-95

Mr. Arnold Wasser
Manager of Environmental Control
M & T Chemicals, Inc.
P. O. Box 1104
Rahway, New Jersey 07065

Dear Mr. Wasser:

This letter is to confirm our telephone conversation of today tentatively arranging for a visit by one of our engineers to your East Chicago, Indiana facility on October 10. General Technologies Corporation, under control to the Effluent Guidelines Division, Office of Air and Water Quality, EPA, is performing a study aimed at defining the raw waste loads, treatments and waterborne effluents involved in the manufacture of 48 inorganic chemicals, among which is nickel sulfate. Data generated by this program will be used to develop effluent limitations guidelines.

Enclosed, for information purposes, is a form outlining the type of data our contract requires us to attain.

Thank you for your cooperation.

Very truly yours,

GENERAL TECHNOLOGIES CORPORATION
A Division of Versar Inc.

Edwin F Rissmann

E. F. Rissmann
Environmental Sci

EFR:jkd

Enclosure

M&T 1510

M&T Chemicals Inc.

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INTERNAL CORRESPONDENCE

SUBSIDIARY OF AMERICAN CAN COMPANY

ROUTE TO

TO	DEPARTMENT	LOCATION
Mr. A.C. Wasser	Manufacturing Services	Rahway
FROM	**DEPARTMENT**	**LOCATION**
Mr. W.P. Shefcik	Sr. Proc. Engr.	East Chicago

SUBJECT GENERAL TECHNOLOGIES CORPORATION STUDY OF NICKEL SULFATE

DATE 11/27/73

As per our phone conversation on 11/27/73, I have reviewed the plant waste analysis study your office prepared for the Liquid Nickel Sulfate process at the request of General Technologies Corporation.

The flow sheet in this study is not quite correct as per current plant practice. A corrected flow sheet is enclosed herein and is self-explanitory. As can be seen, the only water borne effluents from the process are from hosing down the filter press after scraping off the cake. This wash water contains some unreacted Nickel Oxide, and trace amounts of Iron Oxides, but very little Nickel Sulfate.

The effluent analysis shown in the study are the result of an analysis made several years ago before this plant was in production of Nickel Sulfate. The analysis shown are the result of the detinning/tin Chemicals outfalls, and have nothing to do with Nickel Sulfate manufacture. The plant has no specific information as to the composition of the effluents from Sulfate manufacture, but as can be seen from the Flow Sheet the liquid borne wastes should be nil.

It is my understanding that this information is to be forwarded to General Technologies Corporation, and they do not intend to send an engineer to the plant to review the process.

William P. Shefcik
Sr. Process Engineer

WPS/dg
Enc.

GENERAL TECHNOLOGIES CORPORATION

6621 Electronic Drive, Springfield, Virginia 22151 (703) 354-3350

FROM MATERIALS RESEARCH TO PRODUCT REALITY

28 September 1973

304-E-114

Mr. Bill Shefcik
Process Engineer
M & T Chemicals Inc.
415 East 151st Street
East Chicago, Indiana 46312

Dear Mr. Shefcik:

We are enclosing a draft of our description of your stannic oxide plant as discussed during our recent visit. We ask that you review this for technical accuracy and return it with any comments you may have as soon as possible. We have calculated hydraulic loads in gallons per ton of product (or the metric equivalent) to assist in disguising the plant production rate. All final versions of our reports contain no reference to plants by name, only by a randomly assigned code number, although we realize in your case that if you have a singular process, those knowledgable in the industry could identify this plant.

We thank you for your assistance in this study.

Very truly yours,

GENERAL TECHNOLOGIES CORPORATION
A Division of Versar Inc.

Robert G. Shaver

Dr. Robert G. Shaver
Vice President & Division Manager

RGS:jkd

Enclosure

STANNIC OXIDE (WET PROCESS)

A. Process Description

Tin-containing scrap is detinned in a caustic soda bath. The detinned steep scrap is washed and sold, and the tin-containing solutions are treated to remove impurities. Treatment consists of sodium hydrosulfide addition to precipitate lead and zinc, sodium silicate precipitation of aluminum compounds, and filtration. The clear solution of sodium stannate is treated with sodium bicarbonate to produce stannic oxide hydrate [$Sn(OH)_4$] and sodium carbonate. Acid neutralization to remove alkalies, followed by washing to remove sodium salts, yields a pure stannic hydroxide, which is then recovered, dried, and calcined to convert to stannic oxide. The stannic oxide is then ground and packaged for sale. A process flowsheet is given in Figure .

B. Raw Waste Load

The raw wastes, which consist of the several washing solutions and muds, are:

waste	kg per metric ton (lbs/ton)	disposition
sulfuric acid	25 (50)	sewer
soda ash	3250 (6500)	sewer
organics	25 (50)	sewer
sodium sulfate	36 (72)	sewer
various sludges from chemical reaction treatment steps	unknown	sold for tin content

C. Plant Water Use

Water consumption in plant 379 amounts to an average of 185,500 liters of municipal water per metric ton of stannic oxide product (44,400 gal/ton). This is wholly used in the process and appears as the process waste discharge from the washes.

D. Waste Treatment

Present treatment consists of a settling tank to remove muds from the effluent waters. After passing through the tank, all wastes are discharged without further treatment to a municipal sewer.

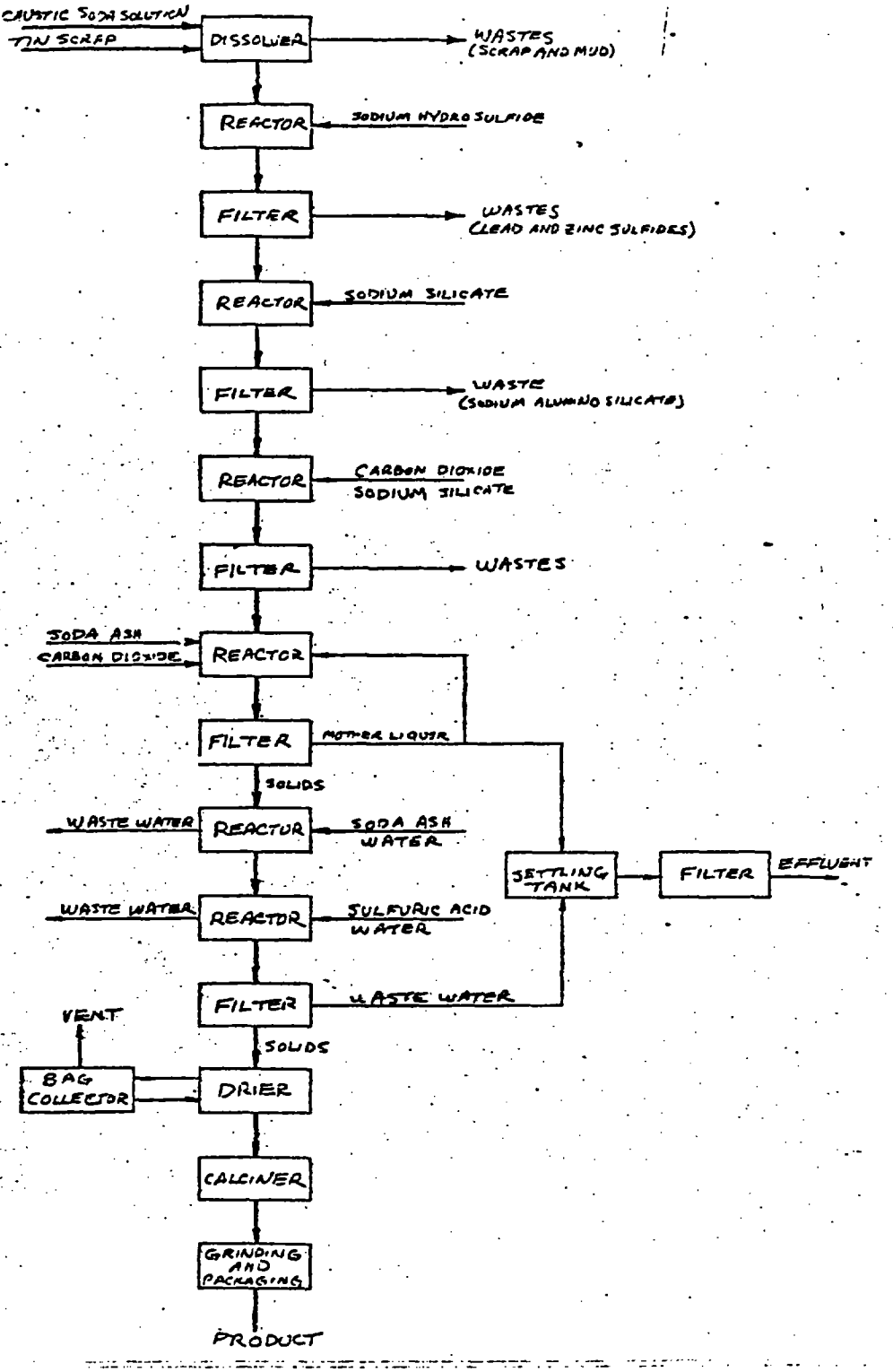
Future treatment plants call for modification of the process so as to use pure tin instead of scrap. This will eliminate need for various chemical pretreatments and reduce the raw waste load.

E. Effluent

Compositions of the present effluent stream after passing through the settling tank and of the intake water are given in Table . High dissolved solids loadings have been added to the water. This plant is not exemplary because of its lack of treatment facilities, but it is to our knowledge the only facility using the above described process.

TABLE . Effluent After Treatment Compared to Intake at Plant 379

(mg/l where appropriate) Constituents Present	Effluent (average)	Effluent (range)	Intake Water (average)
Total suspended solids	19,500	10,000-33,000	--
Total dissolved solids	18,300	8,000-31,000	--
pH	10.4	9.7 - 12.1	
Chloride	704	--	7
Sulfate	706	--	20
Iron	4.7	--	--
Chromium	0.08	--	--
BOD	1177	--	--
COD	3239	--	--
Cyanide	1.01	--	--
Filterable residues	20,590	--	--
Kjeldahl nitrogen	2.90	--	--
Oil and grease	25.8	--	--
Phenol compounds	0.18	--	--
Phosphates (as P)	2.35	--	--
Volatile solids	3815	--	--
Hardness	--	--	130
Calcium	--	--	33
Magnesium	--	--	12
Fluoride	--	--	0.1
Sodium	--	--	5
Alkalinity	--	--	140



WET PROCESS FOR STANNIC OXIDE PRODUCTION

M & T 1510

M&T Chemicals Inc.

PRINTED IN U.S.A.

INTERNAL CORRESPONDENCE

SUBSIDIARY OF AMERICAN CAN COMPANY

TO	DEPARTMENT	LOCATION	ROUTE TO
Mr. A.C. Wasser	Manufacturing Services	Rahway	
FROM	**DEPARTMENT**	**LOCATION**	
Mr. W.P. Shefcik	Sr. Proc. Engr.	East Chicago	

SUBJECT GENERAL TECHNOLOGIES CORP. REVIEW OF TIN OXIDE MANUFACTURE

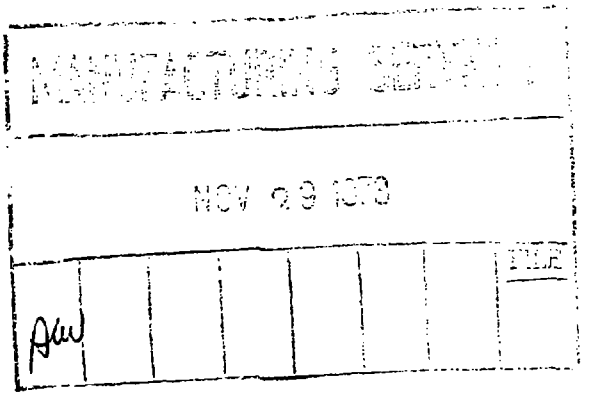
DATE 11/27/73

Enclosed is the General Technologies Corporation's review of our Tin Oxide manufacturing process, including the water borne effluents generated by this process. We have reviewed this study and it appears substantially correct. The flow sheet shown, however, contains extra steps that are not in the basic process. A revised flow sheet is enclosed herein.

As per our phone conversation, it should be stressed with General Technologies that this is a proprietary process, particularly since their cover letter indicates that "--those knowledgable in the industry could identify this plant." Because of this, I will leave it up to you to respond to General Technologies Corporation.

William P. Shefcik
Sr. Process Engineer

WPS/dg
Enc.



GENERAL TECHNOLOGIES CORPORATION

6621 Electronic Drive, Springfield, Virginia 22151 (703) 354-3350

FROM MATERIALS RESEARCH TO PRODUCT REALITY

20 September 1973

304-E-95

Mr. Arnold Wasser
Manager of Environmental Control
M & T Chemicals, Inc.
P. O. Box 1104
Rahway, New Jersey 07065

Dear Mr. Wasser:

This letter is to confirm our telephone conversation of today tentatively arranging for a visit by one of our engineers to your East Chicago, Indiana facility on October 10. General Technologies Corporation, under control to the Effluent Guidelines Division, Office of Air and Water Quality, EPA, is performing a study aimed at defining the raw waste loads, treatments and waterborne effluents involved in the manufacture of 48 inorganic chemicals, among which is nickel sulfate. Data generated by this program will be used to develop effluent limitations guidelines.

Enclosed, for information purposes, is a form outlining the type of data our contract requires us to attain.

Thank you for your cooperation.

Very truly yours,

GENERAL TECHNOLOGIES CORPORATION
A Division of Versar Inc.

E. F. Rissmann
Environmental Scientist

EFR:jkd

Enclosure

PLANT WASTE ANALYSIS

COMPANY [illegible] PLANT AGE [illegible]

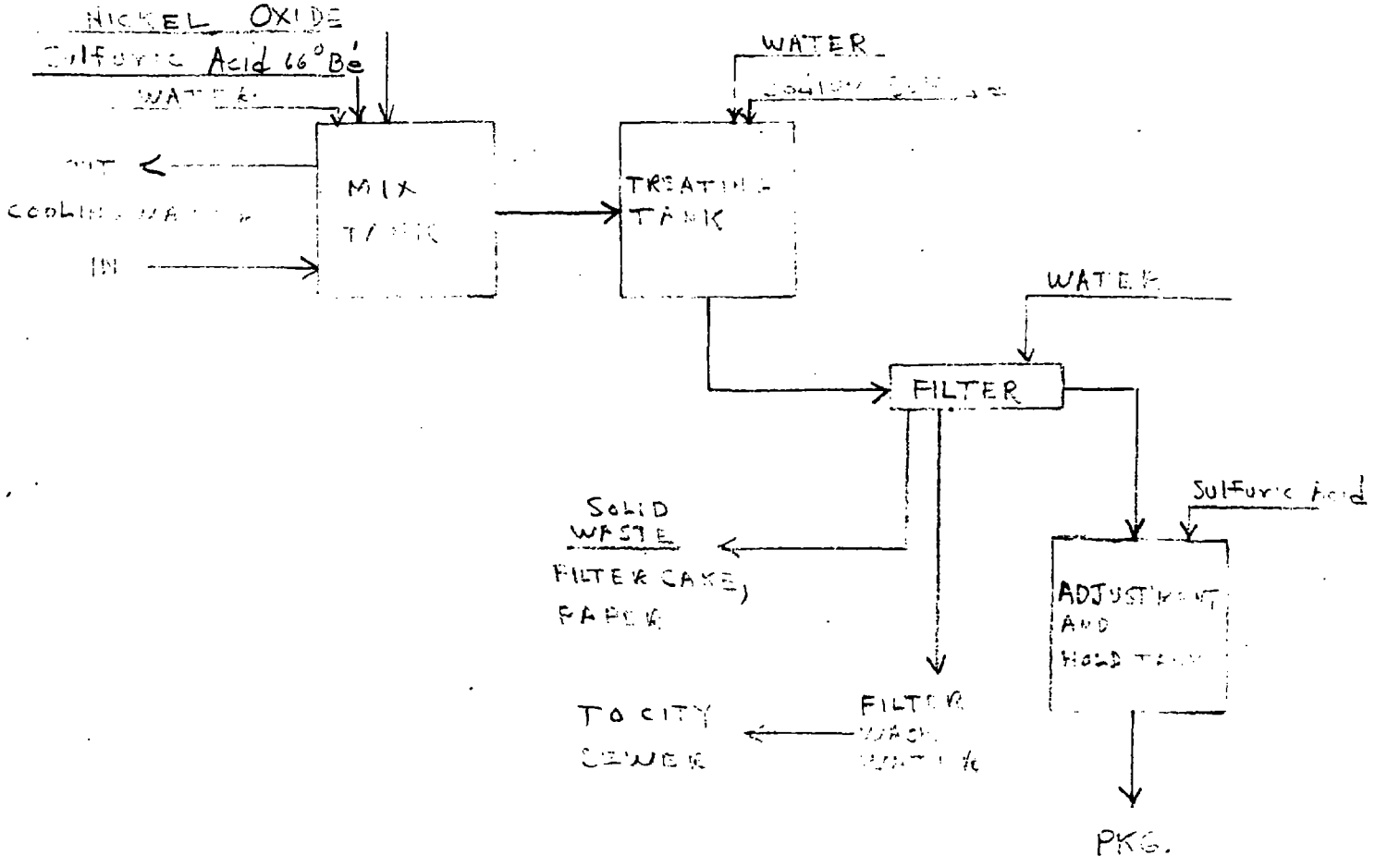
PLANT LOCATION [illegible] TONS/DAY (Cap.) 5.7 t

(Aver.) [illegible]

PRODUCT(S) Nickel Sulfate [illegible] DATE [illegible]

IS THIS A STANDARD PROCESS FACILITY? YES X NO

PROCESS FLOW DIAGRAM (SCHEMATIC)
(Please include location of waste streams)



RAW MATERIALS FOR PRODUCT

MATERIALS	ORIGIN AND PURITY COMMENTS
1.	
2.	
3.	
4.	
5.	

STANDARD RAW WASTE LOADS

WASTE PRODUCTS	PROCESS SOURCE	LBS/TON OF PRODUCTS					
		OPERATION		STARTUP		SHUTDOWN	
		AVE.	RANGE	AVE.	RANGE	AVE.	RANGE
1.							
2.							
3.							
4.							
5.							
6.							

COMMENTS

WATER INPUTS TO PLANT

TYPE	QUANTITY, GPD	COMMENTS ON SOLIDS, MINERALS, TREATMENTS, ETC.
RIVER		
LAKE		
MUNICIPAL		
WELL		
OTHER		

WATER USAGE

TYPE	TOTAL QUANTITY, GPD	% RECYCLED
NON CONTACT COOLING		
SOURCE		
RECEIVING WATER		
CONTACT COOLING	—	
PROCESS (Consumed in Product)		
PROCESS (Discharged in Waste)		
BOILER FEED	—	
SANITARY	—	
OTHER	—	

COMMENTS

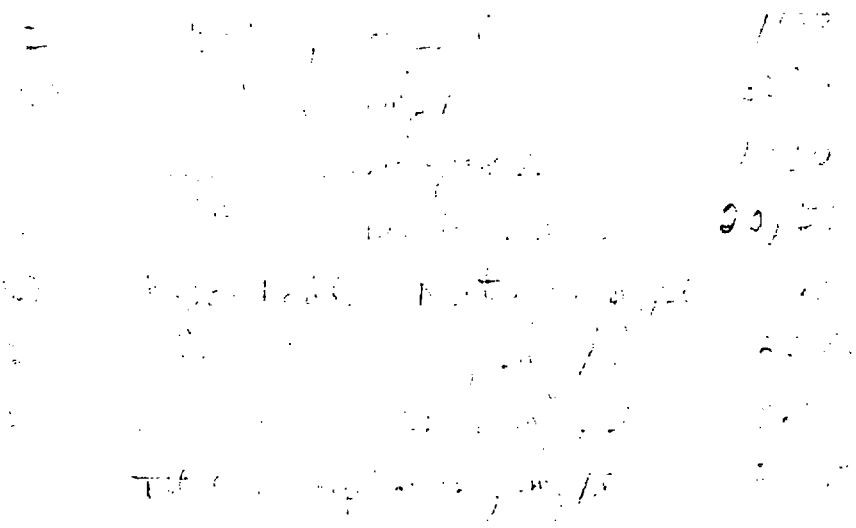
EFFLUENTS FROM PROCESS AFTER TREATMENT

OUTFALL NO.	SOURCE	GPD
1.		
2.		
3.		
4.		
5.		

COMPOSITION OF EFFLUENT STREAMS AFTER TREATMENT

Constituents* Present, MG/L	Stream No.1 Ave.	Stream No.1 Range	Stream No.2 Ave.	Stream No.2 Range	Stream No.3 Ave.	Stream No.3 Range	INTAKE WATER Ave.	INTAKE WATER Range
Tot. Suspended Solids								
Tot. Dissolved Solids								
pH								
CL^-								
$SO_4^=$								
NA^+								
CA^{++}								
HEAVY METALS								
Iron	4.7							
Copper								
Chromate								
Manganese								
Vanadium								
Arsenic								
Mercury								
Lead								

*SEE ATTACHED LIST ON NEXT PAGE FOR ADDITIONAL APPLICABLE CONSTITUENTS AND TESTS. USE BACK OF THIS SHEET IF MORE ROOM IS NEEDED.



ADDITIONAL ANALYSES

TEST PARAMETERS	INTAKE WATER	EFFLUENT STREAMS #1	#2	#3
TURBIDITY				
COLOR				
CONDUCTIVITY				
ACIDITY (FREE)				
ACIDITY (TOTAL)				
ALKALINITY (TOTAL)				
HARDNESS (TOTAL)				
HARDNESS (Ca)				
HALOGENS: Cl_2				
BR_2				
F^-				
SULFITE				
PHOSPHATES: ORTHO				
META				
ELEMENTAL P				
NITROGEN NO_3^-				
NO_2^-				
O_2 DISSOLVED				
TEMPERATURE				
COD				
BOD				
ORGANICS				

CORPS OF ENGINEERS' PERMIT NO. None

RAW WASTE TREATMENTS

	STREAM SOURCE	TREATMENT METHOD(S)	FINAL STREAM DISPOSAL
1.			
2.			
3.			
4.			

ANY SOLID WASTES? _____

WHAT ARE THEY? _____

TREATMENT INVOLVED _____

QUANTITY, LB/TON OF PRODUCT.. WET BASIS _____ DRY BASIS _____

PRESENT DISPOSITION _____

PRESENT TREATMENT INFORMATION

DESCRIPTION OF METHOD*	WHEN INSTALLED	CAPITAL COSTS	OPERATING COSTS	RAW WASTE STREAMS TREATED
1.				
2.				
3.				

PERFORMANCE OF TREATMENT METHODS

METHOD	QUALITATIVE RATING	WASTE REDUCTION** ACCOMPLISHED
1.		
2.		
3.		

* - INCLUDE EQUIPMENT, FACILITIES, ETC., INCLUDING SIZES AND QUANTITATIVE DESCRIPTION.

** - % REDUCTION IN WASTE LOAD AS MEASURED BY SUCH QUANTITIES AS TOTAL SUSPENDED OR DISSOLVED SOLIDS, CHLORIDES, SULFATES, pH, BOD, ORGANICS, ETC.

COST EFFECTIVENESS INFORMATION

LIST TECHNOLOGY AND ROUGH COST ESTIMATES FOR ELIMINATION OF YOUR REMAINING PLANT WASTES. (RECYCLE OR ZERO WATERBORNE WASTE BASIS)
PLEASE INCLUDE ISOLATION, CONTAINMENT, CHEMICAL TREATMENT, SETTLING PONDS, FILTRATIONS, CENTRIFUGING, REVERSE OSMOSIS, DEMINERALIZATION, EVAPORATION, SOLIDS HANDLING AND DISPOSAL OR OTHER PERTINENT TREATMENTS.

ADDITIONAL TREATMENT	STREAM TREATED	% WASTE REDUCTION	ESTIMATED CAPITAL COSTS	ESTIMATED OPERATING COSTS
1)				
2)				
3)				
4)				

FUTURE TREATMENT PLANS

METHODS	ESTIMATED INSTALLATION TIME	ESTIMATED COST	ESTIMATED PERFORMANCE
1.			
2.			
3.			

GENERAL

1. DO YOU FORESEE ANY CHANGES IN YOUR WASTE LOAD IN THE NEXT FEW YEARS (RAW MATERIAL OR PROCESS CHANGES, PRODUCT PURITY, ETC.) ?

2. CAN THE PRESENT MANUFACTURING PROCESS BE MODIFIED OR CHANGED TO SIGNIFICANTLY REDUCE EFFLUENT WASTE LOADS ?

3. DO "GOOD HOUSEKEEPING" PRACTICES HAVE A MAJOR BEARING ON YOUR EFFLUENT COMPOSITIONS OR ARE THEY COMPOSITIONS DETERMINED ENTIRELY BY BY-PRODUCTS OF THE PROCESS OR QUALITY OF RAW MATERIALS USED ?

4. DOES THIS PLANT HAVE ANY UNIQUE WASTE SITUATIONS AS COMPARED TO OTHER PLANTS PRODUCING THE SAME CHEMICALS (RAW MATERIAL SUPPLY, PROCESS, GEOGRAPHICAL LOCATION, OTHER)?

N F

5. ARE THE TREATMENT PROCESSES NOW USED ----

a. SENSITIVE TO SHOCK LOADS?

b. SHUTDOWN AND STARTUP?

c. MAINTENANCE REQUIREMENTS?

6. WILL THE INSTALLATION OF PROJECTED WASTE CONTROL FACILITIES CAUSE AIR, NOISE, THERMAL OR OTHER POLLUTION EFFECTS?

7. ARE SPACE OR LAND REQUIREMENTS FACTORS IN FUTURE WASTE CONTROL PROJECTS?

8. IF YOU WERE BUILDING A NEW PLANT COULD WASTE EFFLUENTS BE SIGNIFICANTLY REDUCED OR ELIMINATED?

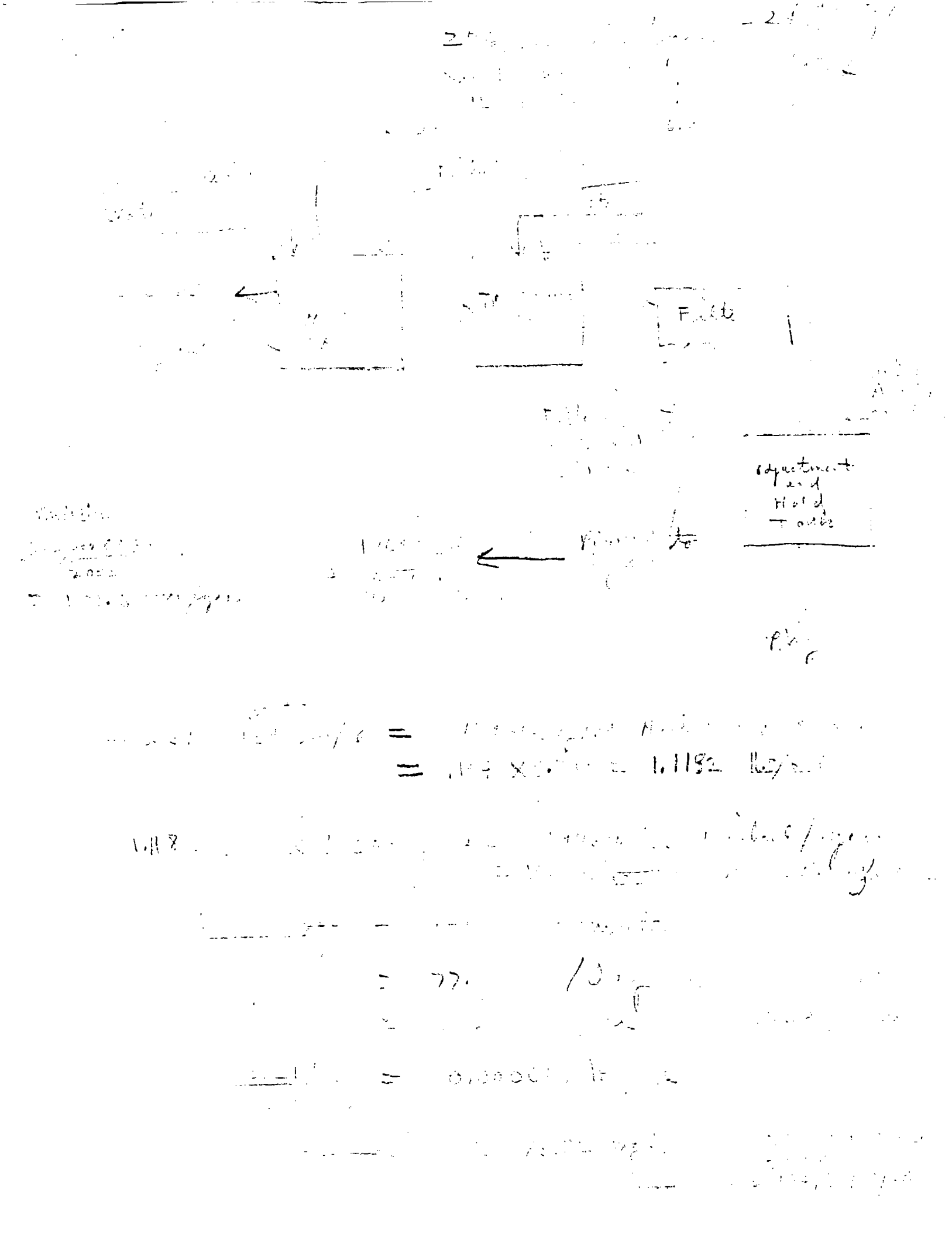
9. IS THERE ANY INFORMATION OR SAMPLING DATA FOR THIS PLANT AVAILABLE FROM OTHER SOURCES SUCH AS STATE OR EPA AGENCIES WHICH WOULD BE HELPFUL TO US IN OUR STUDY?

10. VERIFICATION SAMPLING:

NAME OF CONTACT _____

APPOINTMENT DATE(S) _____

SAMPLE LOCATIONS (NEED PLANT LAYOUT WITH MARKED SAMPLING LOCATIONS)



Production (Neutral Sulphite, Bagasse)

Aver. Tons/Day = $\frac{1151.6 \text{ Tons}}{6.0} = 4.61$ Tons/Day

Capacity $+.01 \times \frac{1}{.8} = 5.76$ Tons/Day

INDUSTRIAL WASTE PROFILE INFORMATION
M&T CHEMICALS INC.
415 E. 151st Street
East Chicago, Indiana

1. Generating and Pretreatment Processes

The M&T plant removes tin and lacquer coatings from tin plated ferrous scrap in hot caustic solutions. These solutions are then processed into various tin based chemicals, primarily sodium stannate, potassium stannate and tin oxide. In this processing, the caustic values from the detinning operation are neutralized largely by carbonation into sodium carbonate and bicarbonate which accounts for the alkalinity of our effluents. All manufacturing effluents are routed to a 28,000 gallon surge/settling tank. Effluent from this tank flows by gravity into the Sanitary District sewer.

2. Discharge Volumes

The average daily discharge volumes from the plant are:

Month	GPD Average
June 1971	106,100
July	103,300
August	92,100
September	74,000
October	80,800
November	83,900
December	101,700
January 1972	123,500
February	77,000

The maximum diurnal variations over this period range from a low of about 60,000 GPD to a maximum of 160,000 GPS. The low values are most likely to occur on Sundays or extended holiday periods.

3. Temperature of Discharge

Discharge temperatures typically are about 100°F.

4. Analytical Profile of Discharge

The analyses on the attached sheet were run by an independent outside laboratory specializing in such work.

5. Changes in Characteristics and Flow

Because of the continuous nature of our operation and the built-in surge capacity, only minor variation in discharge characteristics and flows can occur over short time intervals.

6. Metering of Flows

The flow into the surge/settling tank described above is metered and totalized, using a magnetic flow meter. A log has been kept of these flows over the past several years and is available for inspection at any time.

7. Sampling of Discharges

An automatic sampler is installed on the effluent as it enters the sewer. Samples are collected routinely for analysis.

8. Presence of Flammable Solvents

This plant uses no organic solvents in its processing, and hence discharges none.

9, 10. Presence of Sanitary Wastes and other outfalls

Sanitary wastes from the office building are routed directly to the sewer where they are combined with our industrial outfall. These wastes are not metered.

WPS:MS
3-22-72
Att.

M&T 1510

M&T Chemicals Inc.

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INTERNAL CORRESPONDENCE

TO	DEPARTMENT	LOCATION	ROUTE TO
O. C. Culler	Dir. of Manufacturing	RGO	
FROM	**DEPARTMENT**	**LOCATION**	
L. J. Hanlon	Planning & Control	East Chicago	
SUBJECT			**DATE**
MATERIAL SHIPPED FROM EAST CHICAGO ON MARCH 14, 1978			3/17/78

The following is a list of materials shipped from the East Chicago plant on March 14, 1978.

Description	Amt. & Package Size	Weight
Nickel Sulfate (finished goods)	64 x 52 gal. drums	38400 lbs.
Nickel Sulfamate (finished goods)	46 x 48 gal. drums	27600 lbs.
PY-61H (finished goods)	14 x 55 gal. drums	7000 lbs.
C-10xB (finished goods)	155 x 5 gal. pails	11500 lbs.
Supercarb (finished goods)	123 x 50 lb. drums	6650 lbs.
Niplex-2 (finished goods)	16 x 55 gal. drums	8000 lbs.
M-89AF (finished goods)	13 x 55 gal. drums	6500 lbs.
Green Label II (finished goods)	46 x 55 gal. drums	23500 lbs.
M-327B (finished goods)	2 x 55 gal. drums	1000 lbs.
C-2 (finished goods)	1 x 125 lb. drums	150 lbs.
Proporgyl Alcohol (raw material from Baltimore)	5 x 40 lb. pails	200 lbs.
	Total Weight	130500 lbs.

L. Hanlon

L. J. Hanlon

LJH:rs

M&T 1510

M&T Chemicals Inc.

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INTERNAL CORRESPONDENCE

TO	DEPARTMENT	LOCATION	ROUTE TO
O. C. Culler	Dir. of Manufacturing	RGO	
FROM	**DEPARTMENT**	**LOCATION**	
L. J. Hanlon	Planning & Control	E. Chicago	

SUBJECT MATERIAL SHIPPED FROM EAST CHICAGO ON MARCH 7, 1978

DATE 3/8/78

The following is a list of materials shipped from the East Chicago plant on March 7, 1978.

Description	Amt. & Package Size	Weight
Soda Ash (raw material for Baltimore)	100 x 100 lb. bags	10000 lbs.
Potassium Carbonate (raw material for Baltimore)	26 x 100 lb. bags	2600 lbs.
Tetrapotassium Pyrophosphate (raw material for Baltimore)	3 x 100 lb. bags	300 lbs.
Caustic Potash Granular (raw material for Baltimore)	1 x 450 lb. drum	450 lbs.
M-327B (finished product)	20 x 55 gal. drums	10200 lbs.
Instant Nickel Carbonate (finished product)	128 x 50 lb. bags	6400 lbs.
NI-1 (finished product)	179 x 5 gal. pails	8100 lbs.
Zip-2 (finished product)	123 x 5 gal. pails	5400 lbs.
P-300 (finished product)	2 x 4 gal. cartons	90 lbs.
C-2 (finished product)	25 x 125 lb. drums	3500 lbs.
Y-17 (finished product)	14 x 55 gal. drums	7200 lbs.
Settling Aid "A" (finished product)	50 x 5 gal. pails	2250 lbs.
Settling Aid "A" (finished product)	4 x 52 gal. drums	2000 lbs.
Green Label II (finished product)	481 x 5 gal. pails	22700 lbs.
Copper Pyrophosphate Wet Cake (raw material for Pico)	5 x 250 lb. drums	1300 lbs.
Pickelene 200 (finished product)	5 x 400 lb. drums	2400 lbs.
Nickel Chloride (finished product)	180 x 5 gal. containers	10600 lbs.

(continued)

Description (cont'd)	Amt. & Package Size	Weight
C-2 (finished product)	39 x 125 lb. drums	5500 lbs.
TinSol A (finished product)	63 x 65 lb. pails	4200 lbs.
B-6 (finished product)	144 x 5 gal. pails	6500 lbs.
Anode Order No. 88B-50828 (for export)	1 order	230 lbs.
	Total Weight	111920 lbs.

L. Hanlon

L. J. Hanlon

LJH:rs

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M&T Chemicals Inc.

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INTERNAL CORRESPONDENCE

TO	DEPARTMENT	LOCATION	ROUTE TO
O. C. Culler	Dir. of Manufacturing	RGO	
FROM	**DEPARTMENT**	**LOCATION**	
L. J. Hanlon	Planning & Control	E. Chicago	
SUBJECT			**DATE**
MATERIAL SHIPPED FROM E. CHICAGO ON FEBRUARY 28, 1978			3/3/78

The following is a list of materials shipped from East Chicago plant on February 28, 1978.

Description	Amt. & Package Size	Weight
AC-94 Leveler(finished product)	13 x 4 gal. cartons	500 lbs.
TinSol (finished product)	10 x 65 lb. pails	650 lbs.
Silver Oxide (resale item)	10 x 1 lb. cartons	10 lbs.
PY-61H (finished product)	15 x 55 gal. drums	7500 lbs.
Nickel Sulfate (finished product)	27 x 52 gal. drums	16200 lbs.
Settling Aid "A" (finished product)	8 x 52 gal. drums	4000 lbs.
Zip-2 (finished product)	27 x 5 gal. pails	1300 lbs.
C-11xB (finished product)	59 x 100 lb. bags	5900 lbs.
A-5 (finished product)	243 x 5 gal. pails	11200 lbs.
A-5 (finished product)	22 x 55 gal. drums	11600 lbs.
L-1 (finished product)	11 x 55 gal. drums	5500 lbs.
Maprofix 563 (raw material for Baltimore)	2 x 150 lb. drums	330 lbs.
Naxonate ST (raw material for BAltimore)	32 x 175 lb. drums	5600 lbs.
Butynediol 35% (raw material for Baltimore)	4 x 460 lb. drums	2000 lbs.
BYDMS (raw material for Baltimore)	7 x 55 gal. drums	3500 lbs.
Sodium Form. Bisulfite (raw material for Baltimore	2 x 250 lb. drums	500 lbs.

(cont'd)

Description	Amt. & Package Size	Weight
Tetrasodium Pyrophosphate (raw material for Baltimore)	48 x 100 lb. bags	4800 lbs.
Triethanolamine (raw material for Baltimore)	2 x 510 lb. drums	1100 lbs.
Orzan A (raw material for Baltimore)	5 x 50 lb. bags	250 lbs.
Sterox DJ (raw material for Baltimore)	2 x 470 lb. drums	1000 lbs.
	Total Shipment	90440 lbs.

L. Hanlon

L. J. Hanlon

LJH:rs

M&T 1510

M&T Chemicals Inc.

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INTERNAL CORRESPONDENCE

TO	DEPARTMENT	LOCATION	ROUTE TO
O. C. Culler	Dir. of Manufacturing	RGO	
FROM L. J. Hanlon	DEPARTMENT Planning & Control	LOCATION E. Chicago	
SUBJECT MATERIAL SHIPPED FROM E. CHICAGO BY RENTAL TRUCK FOR THE WEEK OF FEBRUARY 20, 1978			DATE 3/1/78

The following material was shipped or received from or to the East Chicago plant during the week of February 20, 1978 by the plant rental truck.

SHIPPED

Description	Amt. & Package Size	Weight
Micro Dip Dispersion (finished product)	22 x 4 gal. cartons	900 lbs.
Pyrozinc Conc. (finished product)	7 x 5 gal. pails	450 lbs.
Wetting Agent for 48WT (finished product)	5 x 20 lb. pails	110 lbs.
Acetonyl Acetone Carbon Disulfide Resin (raw material for Export)	1 x 22 lb. pail	25 lbs.
Nickel Sulfate (finished product)	24 x 52 gal. drums	14400 lbs.
Sodium Formaldehyde Bisulfite (raw material for Export)	1 x 175 lb. drum	175 lbs.
AC-94 Leveler (finished product)	14 x 4 gal. cartons	560 lbs.
Anode Straps (raw material for anode)	2 bundles	83 lbs.

RECEIVED

Description	Amt. & Package Size	Weight
Butoxyne 497 (raw material for production)	1 x 460 lb. drum	500 lbs.
Strapping (for wrapping pallets)	1 roll	1000 lbs.
Assorted UPS Packages	7 each	200 lbs.
Potassium Nitrate (raw material for production)	40 x 100 lb. bags	4000 lbs.

(continued)

RECEIVED

Description	Amt. & Package Size	Weight
Plastic Wrap (for wrapping pallets)	18 rolls	900 lbs.
	Total Weight	23303 lbs.

L. Hanlon

L. J. Hanlon

LJH:rs

cc: M. Davis, E. Chicago

M & T 1510

M&T Chemicals Inc.

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INTERNAL CORRESPONDENCE

TO	DEPARTMENT	LOCATION	ROUTE TO
O. C. Culler	Dir. of Manuafacturing	RGO	
FROM	DEPARTMENT	LOCATION	
L. J. Hanlon	Planning & Control	E. Chicago	

SUBJECT: MATERIAL SHIPPED FROM E. CHICAGO ON FEBRUARY 22, 1978

DATE: 3/1/78

The following is a list of materials shipped from the East Chicago plant on February 22, 1978.

Description	Amt. & Package Size	Weight
C-2 (finished product)	66 x 125 lb. drums	9300 lbs.
40AN (finished product)	10 x 400 lb. drums	4000 lbs.
L-1 (finished product)	16 x 55 gal. drums	8000 lbs.
TinSol B (finished product)	24 x 750 lb. drums	19000 lbs.
Instant Nickel Carbonate (finished product)	94 x 50 lb. bags	4700 lbs.
B-10 (finished product)	72 x 5 gal. pails	3200 lbs.
C-10xB (finished product)	151 x 5 gal. pails	11000 lbs.
NI-1 (finished product)	72 x 5 gal. pails	3200 lbs.
ACFS-173 (finished product)	101 x 4 gal. cartons	3300 lbs.
Copper Pyrophosphate Wet Cake (raw material for Pico)	10 x 250 lb. drums	2600 lbs.
Nickel Chloride (finished product)	4 x 52 gal. drums	2400 lbs.
Empty Drums (return for deposit)	14 each	700 lbs.
	Total Weight	71400 lbs.

L. Hanlon

L. J. Hanlon

LJH:rs

cc: P. B. Comito, RGO
A. Kornhauser, RGO

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M&T Chemicals Inc.

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INTERNAL CORRESPONDENCE

TO	DEPARTMENT	LOCATION	ROUTE TO
O. C. Culler	Dir. of Manufacturing	FEB 27 1978	
FROM L. J. Hanlon	**DEPARTMENT** Planning & Control	**LOCATION** E. Chicago	
SUBJECT MATERIAL SHIPPED FROM EAST CHICAGO ON FEBRUARY 14, 1978			**DATE** 2/22/78

The following is a list of materials shipped from the East Chicago plant on February 14, 1978.

Description	Amt. & Package Size	Weight
C-10xB (finished product)	44 x 55 gal. drums	35200 lbs.
Y-17 (finished product)	6 x 55 gal. drums	3000 lbs.
Green Label II (finished product)	473 x 5 gal. pails	23600 lbs.
Instant Nickel Carbonate (finished product)	38 x 50 lb. bags	1900 lbs.
Nickel Chloride (finished product)	20 x 52 gal. drums	12300 lbs.
Nickel Sulfate (finished product)	36 x 52 gal. drums	21900 lbs.
M-89AF (finished product)	15 x 55 gal. drums	8000 lbs.
Y-17 (finished product)	108 x 4 gal. cartons	5000 lbs.
CL-3 (finished product)	142 x 5 gal. pails	7200 lbs.
Micro-Dip Dispersion	11 x 4 gal. cartons	500 lbs.
	Total Weight	118600 lbs.

L. Hanlon

L. J. Hanlon

LJH:rs

M & T 1510

M&T Chemicals Inc.

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INTERNAL CORRESPONDENCE

ROUTE TO

TO	DEPARTMENT	LOCATION
O. C. CULLER	DIR. OF MANUFACTURING	MANUFACTURING AND OPERATIONS SERVICES
FROM	**DEPARTMENT**	**LOCATION**
L. J. HANLON	PLANNING & CONTROL	E. CHICAGO

FEB 27 1978

FILE

SUBJECT: MATERIAL SHIPPED FROM E. CHICAGO ON FEBRUARY 7, 1978

DATE: 2/21/78

The following is a list of materials shipped from the East Chicago plant on February 7, 1978.

Description	Amt. & Package Size	Weight
Nickel Chloride (finished product)	44 x 52 gal. drums	27200 lbs.
M-89AF (finished product)	14 x 55 gal. drums	7500 lbs.
CL-4 (finished product)	139 x 5 gal. pails	6400 lbs.
Green Label II (finished product)	94 x 5 gal. pails	4400 lbs.
AC-94 Leveler (finished product)	54 x 4 gal. cartons	3000 lbs.
Nickel Carbonate Dustless (finished) product)	40 x 75 lb. bags	3000 lbs.
Empty 55 gallon drums (for Pico)	30 each	500 lbs.
Butynediol 35% (raw material for Pico)	2 x 460 lb. drums	1000 lbs.
Gelvatol 40-10 (raw material for Pico)	2 x 50 lb. bags	100 lbs.
Veratraldehyde MPG-98 (raw material for Pico)	1 x 200 lb. drums	200 lbs.
Colloid 4V (raw material for Pico)	3 x 50 lb. bags	150 lbs.
Plurafac C-17 (raw material for Pico)	1 x 450 lb. drum	500 lbs.
XP-223 (raw material for Pico)	1 x 450 lb. drum	500 lbs.
	Total Weight	54450 lbs.

L. Hanlon

L. J. Hanlon

LJH:rs

1510

M&T Chemicals Inc.

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INTERNAL CORRESPONDENCE

TO	DEPARTMENT	LOCATION	ROUTE TO
O. C. Culler	Mfg. - Plating and Plastics	RGO	
FROM	**DEPARTMENT**	**LOCATION**	
L. J. Hanlon	Planning & Control	E. Chicago	

SUBJECT

MATERIAL SHIPPED FROM EAST CHICAGO ON JANUARY 25 AND JANUARY 28, 1978

DATE

2/1/78

The following is a list of materials shipped from the East Chicago plant on January 25 and January 28, 1978.

Description	Amt. & Package Size	Weight
TinSol B (finished product)	23 x 750 lb. drums	18500 lbs.
TinSol A (finished product)	11 x 750 lb. drums	8850 lbs.
Nickel Chloride (finished product)	30 x 52 gal. drums	18000 lbs.
Nickel Sulfamate (finished product)	20 x 48 gal. drums	12000 lbs.
Nickel Sulfamate (finished product)	20 x 52 gal. drums	13000 lbs.
GL-1 (finished product)	41 x 55 gal. drums	20500 lbs.
GL-1 (finished product)	2 x 5 gal. pails	100 lbs.
C-11xB (finished product)	294 x 5 gal. pails	20900 lbs.
C-11xB (finished Product)	84 x 100 lb. bags	8400 lbs.
NI-1 (finished product)	178 x 5 gal. pails	8000 lbs.
C-10xB (finished product)	27 x 55 gal. drums	21600 lbs.
Supercarb (finished product)	61 x 50 lb. drums	3200 lbs.
L-1 (finished product)	300 x 5 gal. pails	12700 lbs.
Stannolume 128 Additive (finished product)	104 x 4 gal. cartons	4100 lbs.
C-2 (finished product)	41 x 125 lb. drums	5700 lbs.
Alstan 75A (finished product)	76 x 5 gal. pails	3900 lbs.
Alstan 75A (finished product)	11 x 55 gal. drums	5900 lbs.
NL-1 (finished product)	11 x 50 lb. drums	6000 lbs.

(continued)

Sescription	Amt. & Package Size	Weight
Nickel Carbonate (raw material for Pico)	24 x 225 lb. drums	5800 lbs.
A-5 (finished product)	12 x 55 gal. drums	6000 lbs.
Green Label II (finished product)	216 x 5 gal. pails	10800 lbs.
Settling Aid A (finished product)	10 x 5 gal. pails	500 lbs.
Nickel Sulfate (finished product)	1 x 5 gal. pail	60 lbs.
Anisic Aldehyde (raw material for Pico)	3 part drums	500 lbs.
Empty C-11xB bags (raw material for Pico)	300 each	300 lbs.
SSC-I (finished product)	15 x 350 lb. drums	5500 lbs.
	Total Weight	215410 lbs.

L. Hanlon

L. J. Hanlon

LJH:rs

cc: P. B. Comito, RGO
A. Kornhauser, RGO

M&T 1510

M&T Chemicals Inc.

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INTERNAL CORRESPONDENCE

ROUTE TO

TO	DEPARTMENT	LOCATION
O. C. Culler	Mfg. - Plating and Plastics	RGO
FROM	**DEPARTMENT**	**LOCATION**
L. J. Hanlon	Planning & Control	E. Chicago

SUBJECT: MATERIAL SHIPPED FROM E. CHICAGO ON JANUARY 10 & JANUARY 12,1978

DATE: 1/16/78

The following is a list of materials shipped from the East Chicago plant on January 10 and January 12, 1978.

Description	Amt. & Package Size	Weight
PY-61H (finished product)	14 x 55 gal. drums	7000 lbs.
GL-2 (finished product)	150 x 5 gal. pails	7000 lbs.
Nickel Sulfate (finished product)	28 x 52 gal. drums	17000 lbs.
Storage Cabinet (damaged-returned)	1 each	600 lbs.
Empty Plastic Pails (for Rahway Pilot plant)	300 each	300 lbs.
Potassium Stannate Liquor (for Carrollton trial)	63 x 55 gal. drums	41600 lbs.
Empty Stannate drums (for Carrollton trial)	180 each	700 lbs.
	Total Weight	74200 lbs.

L. Hanlon

L. Hanlon

LJH:rs

cc: P. B. Comito, RGO
A. Kornhauser, RGO

M&T 1-70

M&T Chemicals Inc.

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INTERNAL CORRESPONDENCE

TO	DEPARTMENT	LOCATION	ROUTE TO
O. C. Culler	Mfg. - Plating and Plastics	RGO	
FROM L. J. Hanlon	**DEPARTMENT** Planning & Control	**LOCATION** E. Chicago	
SUBJECT MATERIAL SHIPPED FROM EAST CHICAGO ON JANUARY 4, 1978.			**DATE** 1/5/78

The following is a list of materials shipped from the East Chicago plant on January 4, 1978.

Description	Amt. & Package Size	Weight
Nickel Sulfate (finished product)	60 x 52 gal. drums	36000 lbs.
C-2 (finished product)	37 x 125 lb. drums	5200 lbs.
B-6 (finished product)	17 x 55 gal. drums	8500 lbs.
B-6 (finished product)	108 x 5 gal. pails	5400 lbs.
C-11xB (finished product)	2 x 55 gal. drums	1600 lbs.
M-89AF (finished product)	13 x 55 gal. drums	6500 lbs.
MBN-101A (finished product)	11 x 55 gal. drums	5500 lbs.
48WT (finished product)	21 x 400 lb. drums	8400 lbs.
AC94 Leveler (finished product)	55 x 4 gal. cartons	2000 lbs.
Hyflow Supercel (resale item)	24 x 50 lb. bags	1200 lbs.
Tetrapotassium Pyrophosphate (resale item)	80 x 100 lb. bags	8000 lbs.
Green Label III (finished product)	16 x 55 gal. drums	8000 lbs.
Settling Aid A (finished product)	8 x 52 gal. drums	4000 lbs.
Butynediol 35% (raw material for Baltimore)	3 x 460 lb. drums	1500 lbs.
Aerosol MA-80% (raw material for Baltimore)	2 x 475 lb. drums	1000 lbs.

(continued)

Description	Amt. & Package Size	Weight
Sodium Formaldehyde Bisulfite (raw material for Baltimore)	2 x 250 lb. drums	500 lbs.
Sodium Paratoluene Sulfinate (raw material for Baltimore)	6 x 200 lb. drums	1200 lbs.
Golpanol MME (raw material for Baltimore)	1 x 198 lb. drum	200 lbs.
Triethanolamine 99% (raw material for Baltimore)	2 x 510 lb. drums	1000 lbs.
Sterox DJ (raw material for Baltimore)	2 x 470 lb..drums	1000 lbs.
Orzan A (raw material for Baltimore)	2 x 50 lb. bags	100 lbs.
Sodium Tripolyphosphate (raw material for Baltimore)	30 x 100 lb. bags	3000 lbs.
Caustic Soda Beads (raw material for Baltimore)	40 x 500 lb. bags	20000 lbs.
	Total Weight	129800 lbs.

L. Hanlon

L. J. Hanlon

LJH:rs

cc: P. B. Comito, RGO
A. Kornhauser, RGO

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INTERNAL CORRESPONDENCE

ROUTE TO

TO	DEPARTMENT	LOCATION
O. C. Culler	Mfg. - Plating and Plastics	RGO
FROM	**DEPARTMENT**	**LOCATION**
L. J. Hanlon	Planning & Control	E. Chicago

SUBJECT: MATERIAL SHIPPED FROM EAST CHICAGO ON DECEMBER 20, 1977

DATE: 12/22/77

The following is a list of materials shipped from the East Chicago plant on December 20, 1977.

Description	Amt. & Package Size	Weight
Nickel Chloride (finished product)	36 x 5 gal. pails	2150 lbs.
AC-94 Maintainance Brt. (finished product)	86 x 4 gal. cartons	3200 lbs.
C-11xb (finished product)	40 x 55 gal. drums	32200 lbs.
Nicarb-50 (finished product)	133 x 50 lb. bags	6650 lbs.
A-5 (finished product)	52 x 55 gal. drums	26050 lbs.
Settling Aid "A" (finished product)	4 x 52 gal. drums	2000 lbs.
TinSol A (finished product)	96 x 65 lb. pails	6400 lbs.
TinSol A (finished product)	1 x 750 lb. drum	800 lbs.
B-6 (finished product)	72 x 5 gal. pails	3200 lbs.
Nickel Sulfate (finished product)	12 x 52 gal. drums	7200 lbs.
Aeresol AY-65% (raw material for Pico)	1 x 450 lb. drum	500 lbs.
Aeresol MA-80% (raw material for Pico)	1 x 475 lb. drum	500 lbs.
C-11xB Bags (raw material for Pico)	100 each	100 lbs.
Caustic Potash Granular (raw material for Baltimore)	3 x 450 lb. drums	1350 lbs.
Trisodium Phosphate (raw material for Baltimore)	25 x 100 lb. bags	2500 lbs.

(continued)

Description	Amt. & Package Size	Weight
Tetrasodium Pyrophosphate (raw material for Baltimore)	50 x 100 lb. bags	5000 lbs.
Formaldehyde (raw material for Baltimore)	2 x 475 lb. drums	950 lbs.
Butynediol (raw material for Baltimore)	12 x 460 lb. drums	5520 lbs.
Sodium Formaldehyde Bisulfite (raw material for Baltimore)	5 x 250 lb. drums	1250 lbs.
Caustic Soda Beads (raw material for Baltimore)	4 x 500 lb. drums	2000 lbs.
BYDMS (raw material for Baltimore)	24 x 55 gal. drums	12540 lbs.
Hyflo Supercel (resale item)	24 x 50 lb. bags	1200 lbs.
Nickel Carbonate (raw material for Pico)	4 x 225 lb. drums	900 lbs.
CF-737 Condenaate (raw material for Pico)	7 x 558 lb. drums	3900 lbs.
Gelvatol 20-30 (raw material for Pico)	5 x 50 lb. bags	250 lbs.
Gelvatol 40-10 (raw material for Pico)	2 x 50 lb. bags	100 lbs.
Veratraldehyde (raw material for Pico)	1 x 500 lb. drums	500 lbs.
Colloid 4V(raw material for Pico)	3 x550 lb. bags	150 lbs.
Anisic Aldehyde (raw material for Pico)	1 x 500 lb. drum	500 lbs.
Empty Labeled ZN-737-4 drums (for Pico)	30 each	750 lbs.
Empty Labeled ZN-737BBL drums(for Pico)	15 each	375 lbs.

L. Hanlon

LJH:rs

L. J. Hanlon

cc: P. B. Comito, RGO
A. Kornhauser, RGO

M&T 1510

M&T Chemicals Inc.

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INTERNAL CORRESPONDENCE

TO	DEPARTMENT	LOCATION	ROUTE TO
O. C. Culler	Mfg. - Plating and Plastics	RGO	
FROM	**DEPARTMENT**	**LOCATION**	
L. J. Hanlon	Planning & Control	E. Chicago	

SUBJECT MATERIAL SHIPPED FROM EAST CHICAGO ON DECEMBER 13, 1977

DATE 12/13/77

The following is a list of materials shipped from the East Chicago plant on December 13, 1977.

Descriptoon	Amt. & Package Size	Weight
Alstan 80A (finished product)	17 x 55 gal. drums	9400 lbs.
Liquid Nickel Sulfate (finished product)	32 x 52 gal. drums	19400 lbs.
Liquid Nickel Chloride (finished product)	28 x 52 gal. drums	17300 lbs.
Nicarb-50 (finished product)	41 x 50 lb. bags	2050 lbs.
Sodium Tripolyphosphate (raw material)	30 x 100 lb. bags	3000 lbs.
Soda Ash (raw material for Baltimore)	50 x 100 lb. bags	5000 lbs.
Tetrasodium Pyrophosphate (raw material)	25 x 100 lb. bags	2500 lbs.
C-2 (finished product)	8 x 125 lb. drums	1000 lbs.
M89A (finished product)	41 x 5 gal. pails	2000 lbs.
GL-2 (finished product)	24 x 55 gal. drums	12000 lbs.
C-10xB (finished product)	20 x 55 gal. drums	16000 lbs.
GL-2 (finished product)	108 x 5 gal. pails	4800 lbs.
Nickel Chloride (finished product)	180 x 5 gal. pails	10600 lbs.
C-11xB (finished product)	30 x 55 gal. drums	23000 lbs.
C-11xB (finished product)	39 x 100 lb. bags	3900 lbs.
Settling Aid "A" (finished product)	4 x 52 gal. drums	2000 lbs.

(continued)

Description (cont'd)	Amt. & Package Size	Weight
Nicarb-225 (raw material for Pico Rivera)	28 x 225 lb. drums	6300 lbs.
Unichrome 4A (resale item)	1 x 4 gal. cartons	60 lbs.
Anode Order No. 88B-51789 (customer order)	1 pallet	560 lbs.
Scales (for repairs)	2 each	300 lbs.
Empty Steel Drums (for Ferndale)	10 each	400 lbs.
	Total Weight	141620 lbs.

L. Hanlon

L. J. Hanlon

LJH:rs

cc: P. B. Comito, RGO
A. Kornhauser, RGO

M&T FORM

M&T Chemicals Inc.

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INTERNAL CORRESPONDENCE

TO	DEPARTMENT	LOCATION	ROUTE TO
O. C. Culler	Mfg. - Plating and Plastics	RGO	
FROM L. J. Hanlon	**DEPARTMENT** Planning & Control	**LOCATION** E. Chicago	
SUBJECT MATERIAL SHIPPED FROM EAST CHICAGO ON DECEMBER 7, 1977			**DATE** 12/8/77

The following is a list of materials shipped from the East Chicago plant on December 7, 1977.

Description	Amt. & Package Size	Weight
TinSol B (finished product)	50 x 64 lb. pails	3350 lbs.
TinSol B (finished product)	17 x 750 lb. drums	13600 lbs.
Nickel Sulfamate (finished product)	37 x 48 gl. drums	22200 lbs.
A-5 (finished product)	20 x 55 gl. drums	10000 lbs.
Silverlume A (finished product)	150 x 4 lb. cans	600 lbs.
XYZ (finished product)	168 x 10 lb. cans	1680 lbs.
Tetrapotassium Pyrophosphate (resale item)	91 x 100 lb. bags	9100 lbs.
48W (finished product)	10 x 400 lb. drums	4000 lbs.
Orzan A (raw material for Baltimore)	2 x 50 lb. bags	100 lbs.
C-2 (finished product)	24 x 125 lb. drums	3400 lbs.
Alstan 72 (finished product)	100 x 5 gl. pails	66000 lbs.
Nickel Chloride (finished product)	108 x 5 gl. pails	6600 lbs.
Strip Salt 81 (finished product)	71 x 100 lb. bags	7100 lbs.
M326 (finished product)	48 x 5 gl. pails	2400 lbs.
NL-22 (finished product)	40 x 4 gl. cartons	1400 lbs.
GL-2 (finished product)	72 x 5 gl. pails	3600 lbs.
Alstan 80A (finished product)	76 x 5 gl. pails	4200 lbs.
C-14xB (finished Product)	6 x 55 gl. drums	4800 lbs.

(continued)

Description (continued)	Amt. & Package Size	Weight
Nickel Sulfate (finished product)	30 x 100 lb. bags	3000 lbs.
C-10xB (finished product)	32 x 100 lb. bags	3200 lbs.
48WT (finished product)	1 x 400 lb. drum	400 lbs.
ZN-737 Barrel Brt. (finished product)	2 x 55 gl. drums	1000 lbs.
C-11xB (finished product)	12 x 55 gl. drums	9600 lbs.
ZN-737-4 Brt. (finished product)	14 x 55 gl. drums	7000 lbs.
Settling Aid "A" (finished product)	12 x 52 gl. drums	6000 lbs.
Empty 18 Gauge Steel Drums (for Ferndale)	10 each	500 lbs.
	Total Weight	139230 lbs.

L. Hanlon

L. J. Hanlon

LJH:rs

cc: P. B. Comito, RGO
A. Kornhauser, RGO

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M&T Chemicals Inc.

File EC Shipments

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INTERNAL CORRESPONDENCE

TO	DEPARTMENT	LOCATION	ROUTE TO
~~O. C. Culler~~	Mfg. - Plating and Plastics	RGO	
FROM	**DEPARTMENT**	**LOCATION**	
L. J. Hanlon	Planning & Control	E. Chicago	

SUBJECT MATERIAL SHIPPED FROM EAST CHICAGO ON NOVEMBER 21, 1977

DATE 11/28/77

The following is a list of materials shipped from the East Chicago plant on October 24, 1977.

Description	Amt. & Package Size	Weight
Nickel Chloride (Finished Product)	32 x 52 gal. drums	19,600 lbs.
Tetrapotassium Pyrophosphate (Resale Item)	80 x 100 lb. bags	8,000 lbs.
C-11xB (Finished Product)	85 x 5 gal. pails	6,100 lbs.
Copperlume PTH (Finished Product)	67 x 5 gal. pails	3,000 lbs.
Supercarb (Finished Product)	124 x 50 lb. drums	6,700 lbs.
Nickel Carbonate Wet Cake (For Pico Rivera)	35 x 225 lb. drums	8,400 lbs.
C-11xB (Finished Product)	20 x 55 gal. drums	16,500 lbs.
Potassium Stannate (Finished Product)	104 x 100 lb. drums	10,500 lbs.
ZN-737BBL (Finished Product)	12 x 55 gal. drums	6,200 lbs.
ZN-737-4 Brightener (Finished Product)	9 x 55 gal. drums	4, 600 lbs.
CL-3 (Finished Product)	155 x 5 gal. pails	8,100 lbs.
SN-1 (Finished Product)	5 x 50 lb. drums	250 lbs.
XP-223 (Raw Material for Pico)	1 x 450 lb. drums	450 lbs.
Sodium Silicate "G" (Raw Material for Baltimore)	5 x 100 lb. bags	500 lbs.
5 gallon pail lids (Raw Material for Baltimore)	3 x 144 each	480 lbs.

(continued)

Description	Amt. & Package Size	Weight
Anode Order 88b-51410(Customer Order)	1 x 110 lb. Pkge.	110 lbs.
C-2 (Finished Product)	46 x 125 lb. drums	6,000 lbs.
Settling Aid "A" (Finished Product)	8 x 52 gal. drums	3,800 lbs.
48W (Finished Product)	10 x 400 lb. drums	4,000 lbs.
Zip-2 (Finished Product)	78 x 5 gal. pails	3,600 lbs.
Alstan 80A (Finished Product)	12 x 55 gal. drums	7,600 lbs.
Trisodium Phosphate (Raw Material for Balitmore)	21 x 100 lb. bags	2,100 lbs.
Fork Lift (For Repairs)	-----	3,000 lbs.
C-14xB (Finished Product)	12 x 55 gal. drums	q 9,800 lbs.
C-10xB (Finished Product)	8 x 55 gal. drums	6,500 lbs.

L. Hanlon

L. J. Hanlon

LJH:rs

cc: P. B. Comito, RGO
A. Kornhauser, RGO

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M&T Chemicals Inc.

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INTERNAL CORRESPONDENCE

TO	DEPARTMENT	LOCATION	ROUTE TO
O C. Culler	Mfg. - Plating & Plastics	RGO	
FROM L. J. Hanlon	DEPARTMENT Planning & Control	LOCATION E. Chicago	
SUBJECT MATERIAL SHIPPED FROM EAST CHICAGO ON NOVEMBER 9, 1977			DATE 11/10/77

The following is a list of materials shipped from the East Chicago plant on October 24, 1977.

Description	Amt. & Package Size	Weight
TinSol A (Finished Product)	9 x 750 lb. drums	7128 lb.
TinSol B (Finished Product)	19 x 750 lb. drums	15048 lb.
Nickel Sulfate (Finished Product)	33 x 52 gal. drums	20064 lb.
MSL-II (Finished Product)	144 x 5 gal. drums	5615 lb.
Potassium Stannate (Finished Product)	38 x 100 lb. drums	3952 lb.
TinSol A (Finished Product)	50 x 65 lb. pails	3400 lb.
TinSol B (Finished Product)	50 x 65 lb. pails	3400 lb.
Settling Aid "A" (Finished Product)	14 x 52 gal. drums	6692 lb.
Settling Aid "A" (Finished Product)	21 x 5 gal. pails	987 lb.
AC-94 Maint. Brightener (Finished Product)	39 x 4 gal. cartons	1443 lb.
Nickel Chloride (Finished Product)	288 x 5 gal. pails	16992 lb.
Nickel Sulfamate (Finished Product)	19 x 52 gal. drums	12920 lb.
Nickel Sulfamate (Finished Product)	20 x 48 gal. drums	12300 lb.
C-2 (Finished Product)	52 x 125 lb. drums	7332 lb.
Acetonyl Acetone (Raw Material for Export)	1 x 50 lb. drum	54 lb.
ZN-737-4 Brightener (Finished Product)	8 x 55 gal. drums	4072 lb.
Tetrapotassium Pyrophosphate (Resale Item)	80 x 100 lb. bags	8080 lb.
Knocked Down 4 gallon cartons (For Rahway Repackaging)	100 each	100 lb.

(Con'd)

Description	Amt. & Package Size	Weight
Strapping (For Rahway)	1 Box	50 lb.
Clips (For Rahway)	1 Box	5 lb.
C-11xB (Finished Product)	40 x 100 lb. bags	4160 lb.
SB-142BD (Finished Product)	39 x 100 lb. drums	4056 lb.
Copperlume PTH (Finished Product)	72 x 5 gal. pails	3240 lb.
Hy-Flo Supercel (Resale Item)	24 x 50 lb. bags	1200 lb.
Empty 18 gauge steel drums (For Rahway)	8 each	400 lb.
Bisorb (Finished Product)	10 x 10 lb. pails	100 lb.

L. Hanlon

L. J. Hanlon

LJH:rs

cc: P. B. Comito, RGO
A. Kornhauser, RGO

M&T-1346 E. C. Shipman

M&T Chemicals Inc.

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INTERNAL CORRESPONDENCE

TO	DEPARTMENT	LOCATION	ROUTE TO
O. C. Culler	Mfg. - Plating & Plastics	MANUFACTURING AND OPERATIONS SERVICES RGO OCT 28 1977	
FROM	**DEPARTMENT**	**LOCATION**	FILE
L. J. Hanlon	Planning & Control	E. Chicago	
SUBJECT			**DATE**
MATERIAL SHIPPED FROM EAST CHICAGO ON OCTOBER 24, 1977			10/25/77

The following is a list of materials shipped from the East Chicago plant on October 24, 1977.

Description	Amount & Package Size	Weight
Tetrasodium Pyrophosphate (Raw Material for Baltimore)	84 x 100 lb. bags	8,400 lb.
Sodium Gluconate(Raw Material for Baltimore)	72 x 50 lb. bags	3,600 lb.
Petro AA(Raw Material for Baltimore)	12 x 50 lb. bags	600 lb.
Sodium Tripolyphosphate(Raw Material for Baltimore)	16 x 100 lb. bags	1,600 lb.
Orzan A(Raw Material for Baltimore)	3 x 50 lb. bags	150 lb.
Nickel Sulfate(Finished Product)	20 x 52 gal. drums	12,000 lb.
C-2(Finished Product)	48 x 125 lb. drums	6,000 lb.
Tin Dross(Tin Contained)	22 drums	12,389 lb.
Sodium Stannate(Finished Product)	456 x 100 lb. drums	45,600 lb.
Settling Aid A(Finished Product)	2 x 52 gal. drums	1,000 lb.
C-11xB(Finished Product)	72 x 5 gal. pails	5,200 lb.
C-11xB(Finished Product)	40 x 55 gal. drums	32,000 lb.
C-11xB(Finished Product)	2 x 100 lb. bags	200 lb.
Sulfamic Acid(pH Controller-Resale Product)	50 x 50 lb. bags	2,500 lb.
Nickel Carbonate(Finished Product)	20 x 75 lb. bags	1,500 lb.

(Continued)

October 25, 1977

Description	Amount & Package Size	Amount
AC-94 Maintainance -I Brightener (Finished Product)	13 x 4 gal. cartons	500 lb.
Niplex Inhibitor(Finished Product)	2 x 4 gal. cartons	80 lb.
Nickel Chloride(Finished Product)	2 x 52 gal. drums	1,200 lb.
SSC-II(Finished Product)	3 x 350 lb. drums	1,050 lb.
Cleaner 48WT(Finished Product)	2 x 400 lb. drums	800 lb.
Cleaner 48W(Finished Product)	1 x 400 lb. drum	400 lb.
Cleaner 20W(Finished Product)	1 x 400 lb. drum	400 lb.
480NPW(Finished Product)	1 x 400 lb. drum	400 lb.
Knock Down Cartons(For Rahway Repackaging)	50 each	50 lb.
	Total Weight Shipped	137,619 lb.

L. Hanlon

L. J. Hanlon

LJH:rs

cc: M. R. Carr, E. Chicago

M&T 1510

M&T Chemicals Inc.

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INTERNAL CORRESPONDENCE

SUBSIDIARY OF AMERICAN CAN COMPANY

TO	DEPARTMENT	LOCATION	ROUTE TO
L. Ward	Plant Manager	East Chicago	
FROM	DEPARTMENT	LOCATION	
A. E. Slesinger	Safety & Environmental Affairs	RGO	
SUBJECT			DATE
Air Quality Control Operation Permit			2/9/77

Enclosed are the forms which, with a check for $200.00, should be forwarded to East Chicago Department of Air Quality Control. The forms were filled out after consultation with the agency involved. We have placed an order for the Federal documents needed to properly answer all the questions. For this year the city will accept the forms as presently completed.

The checks should be made out to and forward to:

Department of Air Quality Control
900 East Chicago Avenue
East Chicago, Indiana 46312

The package is due by February 15, 1977 so time is of the essence.

Arthur E. Slesinger

AES:rcp

Enclosure

NAME OF COMPANY M&T Chemicals Inc.

FORM NO. ECAQCD 007-77

EQUIPMENT OTHER THAN STORAGE UNITS
OPERATION CERTIFICATE INFORMATION

1	2	3	4	5	6	7	8
MAJOR DEPT.	SL. NO.	EQUIP. ID #	NAME OF UNIT	FUEL (a) MATERIAL (b) POLLUTANT CONTROL (c)	DESIGN CAPACITY (d)	FEE (e)	REMARKS
Powerhouse	1	#1 Boiler		Natural gas & #6 Fuel Oil	25 MM BTU per hour	$20	
Powerhouse	2	#2 Boiler		Natural gas & #6 Fuel Oil	25 MM BTU per hour	$20	
Tin Recovery	3		Nitrite Unit	Produces 325#/hr. of $NaNO_3$ by catalytic combustion of ammonia		$10	Combustion products pass through to absorbtion towers
Tin Recovery	4	Polling and dust collector for tin recovered from scrap processing.	melting pot	Particulates	3700 CFM	$30	
Tin Recovery	5		Melting Furnace	Gas fired	1050 M BTU per hour	$10	

a. Indicate the type of fuel used in fuel burning equipment.

b. Name the "material charged" for process unit.
the "material incinerated" for incinerator or

c. Name the pollutants controlled.

d. "10^6 BTU per hour" for fuel burning equipment.
"Ton per hour" for Process Unit.
"Square foot" of grate area for incinerator.
"SCF per hour" for control equipment.

e. Refer Section 5.2 of Air Quality Control ordinance

NAME OF COMPANY M&T Chemicals Inc.

FORM NO. ECAQCD 007-77

EQUIPMENT OTHER THAN STORAGE UNITS
OPERATION CERTIFICATE INFORMATION

1	2	3	4	5	6	7	8
MAJOR DEPT.	SL. NO.	EQUIP. ID #	NAME OF UNIT	FUEL (a) MATERIAL (b) POLLUTANT CONTROL (c)	DESIGN CAPACITY (d)	FEE (e)	REMARKS
Plating Chemicals	6		Nickel Chloride & Nickel Sulfate Production	Acid vapor scrubber. Model 702 Heil	2000 CFM	$30	
Plating Chemicals	7		Nickel Recovery Unit	Acid fume recovery Model 702 Heil	2000 CFM	$30	
Plating Chemicals	8		Copper Pyrophos-ate Oven	Gas fired drier	1MM BTU per hour	$10	
Plating Chemicals	9	Torit Model 90-219-5 Baghouse	Dry blender dust collector	Particulates	120,000 CFH	$20	
Plating Chemicals	10	Torit Model 84-55	Nickel Carbonate Dryer Bayhouse	Particulates	72,000 CFH	$20	

a. Indicate the type of fuel used in fuel burning equipment.

b. Name the "material charged" for process unit.
the "material incinerated" for incinerator or

c. Name the pollutants controlled.

d. "10^6 BTU per hour" for fuel burning equipment.
"Ton per hour" for Process Unit.
"Square foot" of grate area for incinerator.
"SCF per hour" for control equipment.

e. Refer Section 5.2 of Air Quality Control ordinance

NAME OF COMPANY M&T Chemicals Inc.

ECAQCD 008-77

STORAGE UNITS
OPERATION CERTIFICATE INFORMATION 77
YR.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
TANK	DIAMETER (FT.)	HEIGHT (FT.)	ROOF TYPE*	MATERIAL STORED	REED VAPOR PRESSURE (PSI)	ACTUAL PRESSURE VAPOR (PSI)	CAPACITY (10^3 GLNS.)	THROUGHPUT (10^6 GLNS.)	A-P—42 CODE FEBRUARY 1976 OR LATER	EMISSION FACTOR	ACTUAL EMISSIONS (TONS/YEAR)	FEE ($)	REMARKS
1	10'	30'	FR	No. 6 Fuel Oil		<.01	20 x 10^3 gal.	.450 MM gallons	AP-42 on order.		unknown	$0	
2	10'	30'	FR	" "					"		"		
3	10'	30'	FR	" "					"		"	$0	
4	10'	30'	FR	" "					"		"		

* Roof Types: FR = Fixed Roof, FLR = Floating Roof, IFR = Internal Floating Roof, VR = Vapor Recovery System.

NAME OF COMPANY M&T Chemicals Inc.

FORM ECAQCD 009-77

TRANSFERING OPERATION OF ORGANIC MATERIAL OPERATING CERTIFICATE INFORMATION

MATERIAL	A-P 42 CODE	ANNUAL AMOUNT TRANSFERRED (10^3 GALLONS)	TYPE OF TRANSFER	EMISSION FACTOR	ACTUAL EMISSION (T/Y)	REMARKS
#6 Fuel Oil		450 M gallons	From tank truck to a pump house. Pumped to storage tanks.		Unknown	AP-42 Revision on order.

C O P Y - ORIG. to be posted in the Plant

DEPARTMENT OF AIR QUALITY CONTROL

No. 0021

CITY OF EAST CHICAGO, INDIANA

Certificate of Operation

DATE ISSUED February 21, 1975

COMPANY NAME ~~M and T Chemicals~~

NUMBER OF UNITS Eight

ADDRESS 415 East 151st Street
East Chicago, Indiana

EXPIRATION DATE January 1, 1976

THIS CERTIFICATE OF OPERATION DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY THE AIR QUALITY CONTROL ORDINANCE AS ENACTED MARCH 27, 1967, AND LAST AMENDED APRIL 23, 1973 AND KNOWN AS THE MUNICIPAL CODE OF THE CITY OF EAST CHICAGO, INDIANA, OR THE RULES AND REGULATIONS OF THE STATE AIR POLLUTION BOARD.

THIS CERTIFICATE MUST BE POSTED IN A CONSPICUOUS PLACE AT OR NEAR OPERATING EQUIPMENT.

REVOCABLE AND NOT TRANSFERABLE

BY Dennis T. Karas
DEPARTMENT OF AIR QUALITY CONTROL

MAYOR

GOES 463

DEPARTMENT OF AIR QUALITY CONTROL
CITY OF EAST CHICAGO, INDIANA

Pursuant to Article V of the Air Quality Control Ordinance, Municipal Code of City of East Chicago, Indiana.

INVOICE NO. CM[redacted] 223

NAME OF COMPANY M & T Chemicals, Inc.

ADDRESS 415 East 151st Street
East Chicago, Indiana

DATE February 7, 1[redacted]

			AMOUNT
FOR INSTALLATION PERMIT:			
☐ Fuel Burning Equipment	No. of Units		
☐ Incinerator	No. of Units		
☐ Process Units	No. of Units		
☐ Storage Units	No. of Units		
☐ Control Units	No. of Units		
FOR CERTIFICATE OF OPERATION:			
☒ Fuel Burning Equipment	No. of Units	3	50.00
☐ Incinerator	No. of Units		
☒ Process Units	No. of Units	1	10.00
☐ Storage Units	No. of Units		
☒ Control Units	No. of Units	4	110.00
☐ For Appeal Fee			
☐ For Items Other Than Above		8	
		TOTAL	$170.00

OFFICE USE ONLY
CHECK NO. 23192
REFERENCE NO. L-2-5-75

REMARKS

Form No. ECAQCD 00674

Form Prescribed by State Board of Accounts.
Sheffield Press, Hammond, Ind.

19___
QUIETUS
OFFICE OF CITY CONTROLLER

Revised City Form No. 204
10246

$170.00

EAST CHICAGO, IND. FEBRUARY 10 19 75

I HEREBY CERTIFY THAT:

M & T CHEMICALS , INC. 415 EAST 151 ST E. C. IND.

HAS FILED IN MY OFFICE THE RECEIPT OF THE CITY TREASURER OF EAST CHICAGO. INDIANA

IN THE SUM OF ONE HUNDRED SEVENTY AND 00/100---------- DOLLARS
100

ON ACCOUNT OF GENERAL FUND. FOR CERTIFICATE OF OPERATIONS

CM. # 223

James W. Knight E.
CITY CONTROLLER

E- EC Regulatory Manual

M & T 1510

PRINTED IN U.S.A.

M&T Chemicals Inc.

SUBSIDIARY OF AMERICAN CAN COMPANY

INTERNAL CORRESPONDENCE

ROUTE TO

TO	DEPARTMENT		ROUTE TO
O. Culler	Manufacturing	OPERATIONS DEC 14 1979	
FROM M. Carr	DEPARTMENT Manufacturing	LOCATION East Chicago	
SUBJECT REGULATORY COMPLIANCE			DATE 12/10/79

In response to your memo dated 11/30/79 concerning the audit of Regulatory Compliance issues, the following areas are of concern at East Chicago:

WASTE PRETREATMENT: The East Chicago Plant is presently not in compliance with Federal EPA waste pretreatment regulations for pH, Copper, and Nickel effuents. Due to a lack of Nickel Oxide normal productions rates are not being obtained for nickel chemicals production so work on the pretreatment project is being delayed; however this project must be reinstituted in 1980 when Nickel Oxide becomes available. Art Siesinger is aware of this issue but the projects continuity maybe lost as Art leaves the department.

HAZARDOUS WASTE DISPOSAL: The new Federal regulations concerning documentation and proper disposal of hazardous wastes leaves a lot of questions and has the potential to impact East Chicago. Company guidelines, standardized procedures and forms need to be instituted, and varification of proper disposal sites by knowledgeable individuals needs to be undertaken to insure compliance with the new regulations. This is an issue of future concern.

WORKPLACE ENVIRONMENTAL SAFETY: There is a potential problem at East Chicago with workplace safety in the areas of handling hazardous materials and environmental control (Example: nickel and formaldehyde). Air sampling and atmospheric checks need to be made in the plant and the many revisions to the Federal regulations concerning what materials are hazardous need to be promulgated on a regular basis. This is an issue that will intensify in future years.

D.O.T. COMPLIANCE: Each year a inspector from the Association of American Railroads Bureau of Explosives makes an inspection in the plant to assess if hazardous materials are being shipped in the proper containers and if the proper procedures are being followed with shipments of hazardous materials. No major problems are anticipated in this area based on past inspection reports.

EPA AIR QUALITY COMPLIANCE: The East Chicago plant has annually applied for and received the proper operation permits for stack emissions. The local authorities appear to be more concerned about ensuring that the paperwork is in order than what is actually being emitted from the plant. In future years the Federal EPA will demand the Local EPA bring the Northwest Indiana Area into compliance with Federal regulations at which time a survey will have to be made to insure the plant is in compliance. There is no major problem anticipated in this area as there are no major areas of non-compliance.

M. Carr

MRC:dp

M&T 1810

M&T Chemicals Inc.

PRINTED IN U.S.A.

INTERNAL CORRESPONDENCE

TO	DEPARTMENT	LOCATION	ROUTE TO
Mr. J. Hart		Rahway B-15	
FROM	**DEPARTMENT**	**LOCATION**	
Mr. W. McMullen		Rahway B-15	
SUBJECT			**DATE**
Lead in Nickel Chemicals			2/16/79

In response to the above we have reviewed the quality control sheets and have found that nickel chemicals manufactured in Matawan were absolutely free of lead contamination while East Chicago has consistently had a small lead content (1-10 PPM). Attached are sample quality control sheets that show this disparity.

In our discussion, you did not think that it was worthwhile at this time to investigate our present procedure at East Chicago in order to obtain lead-free products.

W McMullen

WM:ac

cc: S.S. Jacobs-RAHWAY B-15
~~P. Ballou~~ " "
D. Morris- " "

MANUFACTURING
AND
OPERATIONS SERVICES

FEB 20 1979

FILE

M&T Chemicals Inc.
SUBSIDIARY OF AMERICAN CAN COMPANY

QUALITY CONTROL REPORT

PRODUCT: NiSO4 (LIQUID) | MONTH YEAR: JAN '73 TO | PLANT: MATAWAN | PMI:

NOTE: "PASS" = 1.0 "FAIL" = 2.0

MONTH	YEAR	CODE	LOT NUMBER	PLANT	UNIT	APP	pH	Ni	Fe	Cu	Pb	Zn	Cl			COMMENTS
X	PLEASE PRINT CLEARLY					089.	003.	032.	031.	018.	033.	034.	023.			.....
V	A	JCQ	10	M		1.0	2.8	135.6	0.002	0.003	0.0	0.025	0.30			1-18-73
			11	M		1.0	2.75	132.7	0.003	0.003	0.0	0.026	0.46			1-24-73
			12	M		1.0	2.5	136.8	0.0015	0.003	0.0	0.026	0.32			1-27-73
			13	M		1.0	2.7	130.3	0.002	0.006	0.0	0.025	0.50			2-1-73
P	A	JCQ	"	M		1.0	2.7	132.4	0.002	0.003	0.0	0.025	0.53			2-4-73
			2	M		1.0	2.5	132.7	0.003	0.003	0.0	0.024	0.53			2-7-73
			3	M		1.0	2.9	130.9	0.0025	0.005	0.0	0.018	0.35			2-24-73
			4	M		1.0	2.8	132.1	0.003	0.0055	0.0	0.017	0.35			2-26-73
J	A	JCQ	1	M		1.0	2.7	132.7	0.0015	0.006	0.0	0.018	0.46			3-7-73
			2	M		1.0	2.7	133.8	0.002	0.006	0.0	0.018	0.60			3-9-73
			3	M		1.0	2.7	132.1	0.002	0.007	0.0	0.018	0.35			3-13-73
			4	M		1.0	2.7	134.4	0.003	0.009	0.0	0.019	0.425			3-16-73
																.....
																.....

M & T 2203

M&T Chemicals Inc.
SUBSIDIARY OF AMERICAN CAN COMPANY

QUALITY CONTROL REPORT

PRODUCT: Nicl2 Liquid

MONTH / YEAR: NOVEMBER to... 1972

PMI

NOTE: "PASS" = 1.0 "FAIL" = 2.0

MONTH	YEAR	CODE	LOT NUMBER	PLANT	UNIT	APP.	pH	Ni gpl	Cu gpl	Fe gpl	Pb gpl	Zn gpl	SO4 gpl			COMMENTS
PLEASE PRINT CLEARLY						089.	003.	032.	018.	031.	033.	034.	027.			in Ni Cl2 SO4= 5.5 gpl MA
B	K	JCN	18	M		1.0	4.0	176.7	0.0035	0.0025	0.0	0.018	1.2			11-29-72
M	K	JCN	12	M		1.0	3.85	176.1	0.003	0.0025	0.0	0.019	1.25			12-20-72
			13	M		1.0	4.0	177.3	0.005	0.003	0.0	0.0195	0.9			12-27-7[illegible]
			16	M		1.0	3.9	177.9	0.003	0.005	0.0	0.019	0.9			12-30-72
			18	M		1.0	4.0	177.6	0.0045	0.002	0.0	0.02	1.75			1-3-73
V	A	JCN	2	M		1.0	3.65	176.1	0.005	0.0015	0.0	0.019	1.3			1-5-73
			3	M		1.0	4.0	174.9	0.003	0.004	0.0	0.020	1.0			1-13-73
			4	M		1.0	4.0	177.3	0.003	0.0015	0.0	0.0195	1.7			1-13-73
			7	M		1.0	4.0	174.9	0.012	0.001	0.0	0.027	1.9			1-20-7[illegible]
			8			1.0	3.9	177.0	0.009	0.002	0.0	0.035	1.7			1-22-7[illegible]
			11			1.0	3.6	177.9	0.005	0.002	0.0	0.0375	1.7			1-22-7[illegible]
			12			1.0	3.75	174.0	0.005	0.0015	0.0	0.044	1.4			1-27-7[illegible]
			13			1.0	4.0	177.3	0.0045	0.002	0.0	0.041	1.4			2-1-73
			14			1.0	3.75	177.9	0.004	0.0015	0.0	0.038	1.4			2-1-73

M&T 2203

M&T Chemicals Inc.
SUBSIDIARY OF AMERICAN CAN COMPANY

QUALITY CONTROL REPORT

PLANT	East Chicago
PMI	PJ-01-66
NOTE:	"PASS" = 1.0 "FAIL" = 2.0

PRODUCT: Liquid Nickel Chloride
MONTH: March
YEAR: 1978

MONTH	YEAR	CODE	LOT NUMBER	PLANT	UNIT	pH	Nickel	Lead	Iron	Copper	Zinc	Sulfate	COMMENTS
PLEASE PRINT CLEARLY						003.	032.	033.	031.	018.	034.	027.	
J	T	JCN	1	E		3.7	177.3	0.003	0.001	0.003	0.039	1.0	
J	T	JCN	2	E		3.9	178.4	0.004	0.002	0.006	0.034	1.0	

M&T Chemicals Inc.
SUBSIDIARY OF AMERICAN CAN COMPANY

QUALITY CONTROL REPORT

PRODUCT	MONTH	YEAR
Nickel Sulfamate Conc	March	1978

PLANT	East Chicago
PMI	PJ-01-48
NOTE:	"PASS" = 1.0 "FAIL" = 2.0

MONTH	YEAR	CODE	LOT NUMBER	PLANT	UNIT	pH	Nickel	Chloride	Sulfate	Lead	Copper	Iron	Zinc	Hull Cell		COMMENTS
PLEASE PRINT CLEARLY						003.	032.	023.	027.	033.	018.	031.	034.	047.		
J	T	JBV	1	E		3.7	163.2	1.0	1.0	4.2	4.7	1.7	28.8	1.0		

M&T Chemicals Inc.
SUBSIDIARY OF AMERICAN CAN COMPANY

QUALITY CONTROL REPORT

PRODUCT	MONTH	YEAR
Liquid Nickel Sulfate	March	1978

PLANT	East Chicago
PMI	PJ-01-69
NOTE:	"PASS" = 1.0 "FAIL" = 2.0

MONTH	YEAR	CODE	LOT NUMBER	PLANT	UNIT	pH	Nickel	Lead	Copper	Iron	Zinc	Chloride	COMMENTS
PLEASE PRINT CLEARLY						003.	032.	033.	018.	031.	034.	023.	
J	T	JCQ	1	E		2.7	136.2	0.005	0.003	0.002	0.027	1.0	
J	T	JCQ	2	E		3.0	135.0	0.005	0.003	0.002	0.029	1.0	

M&T Chemicals Inc.
SUBSIDIARY OF AMERICAN CAN COMPANY

QUALITY CONTROL REPORT

PRODUCT	MONTH	YEAR
Ni SULFAMATE CONC.	DECEMBER	1972 TO

PLANT	NAIAWAN
PMI	
NOTE:	"PASS" = 1.0 "FAIL" = 2.0

MONTH	YEAR	CODE	LOT NUMBER	PLANT	UNIT	APP	pH	gpl Ni	ppm Cu	ppm Fe	ppm Pb	ppm Zn	gpl SO4	gpl Cl (<7.5)	Hull cell	COMMENTS
X PLEASE PRINT CLEARLY						089.	003.	032.	018.	031.	033.	034.	027.	023.	047.	.....
M	K	JBV	1	M		1.0	3.6	154.4	6.0	4.5	0.0	17.0	1.0	0.35	1.0	12-12-72
			2	M		1.0	3.75	156.1	13.0	4.5	0.0	19.0	1.0	0.35	1.0	12-16-7
P	A	JBV	1	M		1.0	3.7	155.0	6.0	5.0	0.0	28.0	1.0	0.35	1.0	2-8-73
			2	M		1.0	3.8	153.8	15.0	7.0	0.0	36.0	1.0	0.32	1.0	2-13-73
			3	M		1.0	3.8	153.8	6.0	4.0	0.0	21.0	1.0	0.21	1.0	2-15-7
			4	M		1.0	3.6	156.1	5.5	7.0	0.0	20.5	1.0	0.385	1.0	2-20-7
J	A	JBV	1	M		1.0	3.95	156.7	6.0	6.0	0.0	20.0	1.0	0.28	1.0	3-2-7
			2	M		1.0	3.55	157.3	6.0	4.0	0.0	22.0	1.0	0.39	1.0	3-22-7
			3	M		1.0	3.8	156.1	5.5	4.5	0.0	21.0	1.0	0.42	1.0	3-23-7
			4	M		1.0	3.9	155.85	7.0	4.0	0.0	21.0	1.0	0.35	1.0	3-23-7
			5	M		1.0	3.75	156.1	6.0	7.0	0.0	21.0	1.0	0.385	1.0	3-24-7
			6	M		1.0	3.8	157.3	4.5	3.5	0.0	20.5	1.0	0.35	1.0	3-24-7
			7	M		1.0	3.75	156.7	8.0	5.5	0.0	21.0	1.0	0.35	1.0	3-26-7
			8	M		1.0	3.9	159.7	7.0	6.5	0.0	22.0	1.0	0.385	1.0	3-26-7

M & T 2203

EMISSIONS DATA FORM

FOR AGENCY USE
SCC ____ ____ ____ ____
SIC 281-998

SECTION I. Process Information

Company Name M&T CHEMICALS INC.

Plant Address 415 E. 151st. St., Box 179, East Chicago, IN 46312

Person to contact L. R. Ward, Plt. Mgr.

Telephone 219-398-3200

1. Process/Operation Name Dry Chemical Blender
2. Equipment Type Blender
3. Plant I.D. East Chicago Plant Point I.D. 3
4. Combustion: Yes ____ No X
   (Please fill in combustion sheet, if applicable.)
5. Stack identification numbers serving process 3, ____, ____
6. Fugitive Emissions: Yes ____ No X
   (If yes, please fill in Section III.B. Fugitive Dust Data, for storage piles/conveyors.)
7. Process Location (UTM): E 460.9, N 461.2
8. Maximum Continuous Rating: Design ☐ Practical ☒

a.	Process weight (lbs./hr.)	625		
b.	Type of product	Dry Blends	Product weight (lbs./hr.)	619
c.	Type of by-product	None	By-product weight (lbs./hr.)	None
d.	Other product	--	Other product weight (lbs./hr.)	--

9. Process Information (Actual data for 1975, estimates for other years.)

   a. Source installed in 19 73 .

	Year	1975	1980	1985	1990
c.	Process weight (tons/yr.)	1,250	1,375	No	Change
d.	Product weight (tons/yr.)	1,235	1,358	"	"
e.	ACFM (exhaust gases)	500	500	"	"
f.	°F (exhaust gases)	Ambient	Ambient	"	"
g.	% H_2O (exhaust gases)	atmospheric moisture	atmospheric moisture	"	"

(over)

	Year		1975	1980	1985	1990
h.	Operating time (hrs./yr.)		4,000	No Change		
i.	Operating schedule: (% by quarter)	Jan-Mar	25	--	--	--
		Apr-June	25	--	--	--
		July-Sept	25	--	--	--
		Oct-Dec	25	--	--	--

SECTION II. Combustion Data

1. Stack Number 3 , _____

2. Plant I.D. East Chicago Plant Point I.D. 3

3. Maximum continuous heat input capacity (million BTU/hr.) --

4. Operating Data
(Please provide actual data for 1975 and estimates for other years.)

Not Applicable

Year		1975	1980	1985	1990
Solid Fuel:	Input (tons/yr.)				
	% Sulfur				
	% Ash				
	BTU/lb. (gross)				
	BTU/lb. (net)				
Liquid Fuel:	Specify Type				
	Input (10^3 gal./yr.)				
	% Sulfur				
	lbs./gallon				
	BTU/lb. (gross)				
	BTU/lb. (net)				
Gaseous Fuel:	Specify Type				
	Input (10^6 SCF/yr.)				
	Grains (Equivalent) sulfur/100 SCF				
	BTU/SCF (gross)				
	BTU/SCF (net)				
Other:	Specify Type				
	Quantity (Units =)				
	% Sulfur, Grains/100 SCF				
	BTU/lb., SCF (gross)				
	BTU/lb., SCF (net)				

SECTION III.A. Control Equipment Data

1. Stack Number 3

2. Plant I.D. East Chicago Plant

Point I.D. 3, _____, _____

	Year	1975	1980	1985	1990
A.	Particulate Control:		No	Change	
	1. Primary Control Device	Bag house	--	--	--
	2. Secondary Control Device	--	--	--	--
	3. Design efficiency of primary device	99.0	--	--	--
	4. Design efficiency of secondary device	--	--	--	--
	5. Actual efficiency of total control	99.0			
	6. Method of determining actual efficiency	Material Balance Calculations			
	7. Estimated efficiency of total control	99.0	--	--	--
B.	Sulfur Dioxide	None			
	8. Control Device	--	--	--	--
	9. Design Efficiency	--	--	--	--
	10. Actual Efficiency	--			
	11. Methods of determining actual efficiency	--			
	12. Estimated Efficiency	--	--	--	--

SECTION III.B. Fugitive Dust Data

Not Applicable

1. Length of pile/conveyor _____ (ft.)

2. Width of pile/conveyor _____ (ft.)

3. Height of pile _____ (ft.)

SECTION IV. Stack Data

☐ Stack ☐ Non-vertical Stack

☒ Vent ☒ Coolie hat or other obstruction

1. Stack Number 3

2. Plant I.D. East Chicago Plant

   Point I.D. 3 , ,

3. Design Data:

   a. Stack Height (above grade) 30 (ft.)

   b. Grade (above mean sea level) -- (ft.)

   c. Stack diameter, if circular 1 (ft.)

   d. Stack Dimensions (length x width in feet, if rectangular) -- x --

   e. Design Exhaust Volume (ACFM) 500

   f. Design Exhaust Temperature (°F) Ambient

   g. Design % H_2O atmospheric moisture

   h. UTM E 460.9 , N 461.2

4. Operating Information (Actual data for 1975, estimates for other years.)

	Year	1975	1980	1985	1990
b.	ACFM	500	No	Change	
c.	°F	Ambient	--	--	--
d.	% H_2O	atmospheric moisture	--	--	--
e.	Actual Particulate Emissions (lbs./hr.)	0.0001*	--	--	--
f.	Actual Sulfur Dioxide Emissions (lbs./hr.)	None	--	--	--

*Based on design calculations for bag house.

EMISSIONS DATA FORM

FOR AGENCY USE
SCC ____
SIC 281-998

SECTION I. Process Information

Company Name M&T CHEMICALS, INC.

Plant Address 415 E. 151st. St., Box 179, East Chicago, IN 46312

Person to contact L. R. Ward, Plt. Mgr.

Telephone 219-398-3200

1. Process/Operation Name Electrowinning

2. Equipment Type Electroplating

3. Plant I.D. East Chicago Plant Point I.D. #2

4. Combustion: Yes ____ No X
(Please fill in combustion sheet, if applicable.)

5. Stack identification numbers serving process #2, ____, ____

6. Fugitive Emissions: Yes ____ No X
(If yes, please fill in Section III.B. Fugitive Dust Data, for storage piles/conveyors.)

7. Process Location (UTM): E 460.9, N 461.2

8. Maximum Continuous Rating: Design ☐ Practical ☒

a.	Process weight (lbs./hr.)	4,000		
b.	Type of product	Tin	Product weight (lbs./hr.)	200
c.	Type of by-product	Tin Oxide	By-product weight (lbs./hr.)	3,800
d.	Other product	--	Other product weight (lbs./hr.)	--

9. Process Information (Actual data for 1975, estimates for other years.)

a. Source installed in 19 73.

	Year	1975	1980	1985	1990
c.	Process weight (tons/yr.)	17,500	No	Change	
d.	Product weight (tons/yr.)	876	--	--	--
e.	ACFM (exhaust gases)	2,000	--	--	--
f.	°F (exhaust gases)	150 F	--	--	--
g.	% H_2O (exhaust gases)	atmospheric moisture	--	--	--

(over)

	Year		1975	1980	1985	1990
h.	Operating time (hrs./yr.)		8,760	8,760	8,760	8,760
i.	Operating schedule: (% by quarter)	Jan-Mar	25	25	25	25
		Apr-June	"	"	"	"
		July-Sept	"	"	"	"
		Oct-Dec	"	"	"	"

SECTION II. Combustion Data

1. Stack Number #2 , _____

2. Plant I.D. East Chicago Plant Point I.D. #2

3. Maximum continuous heat input capacity (million BTU/hr.) --

4. Operating Data
(Please provide actual data for 1975 and estimates for other years.)

Not Applicable

Year		1975	1980	1985	1990
Solid Fuel:	Input (tons/yr.)				
	% Sulfur				
	% Ash				
	BTU/lb. (gross)				
	BTU/lb. (net)				
Liquid Fuel:	Specify Type				
	Input (10^3 gal./yr.)				
	% Sulfur				
	lbs./gallon				
	BTU/lb. (gross)				
	BTU/lb. (net)				
Gaseous Fuel:	Specify Type				
	Input (10^6 SCF/yr.)				
	Grains (Equivalent) sulfur/100 SCF				
	BTU/SCF (gross)				
	BTU/SCF (net)				
Other:	Specify Type				
	Quantity (Units =)				
	% Sulfur, Grains/100 SCF				
	BTU/lb., SCF (gross)				
	BTU/lb., SCF (net)				

SECTION III.A. Control Equipment Data

1. Stack Number #2

2. Plant I.D. East Chicago Plant

Point I.D. #2, _____, _____

	Year	1975	1980	1985	1990
A.	Particulate Control:				
	1. Primary Control Device	Bag house			
	2. Secondary Control Device	--			
	3. Design efficiency of primary device	99.9			
	4. Design efficiency of secondary device	--			
	5. Actual efficiency of total control	99.9	X	X	X
	6. Method of determining actual efficiency	Material Balance Calculations	X	X	X
	7. Estimated efficiency of total control	99.9			
B.	Sulfur Dioxide	None			
	8. Control Device	"			
	9. Design Efficiency	"			
	10. Actual Efficiency	"	X	X	X
	11. Methods of determining actual efficiency	"	X	X	X
	12. Estimated Efficiency	"			

SECTION III.B. Fugitive Dust Data

1. Length of pile/conveyor Not Applicable (ft.)

2. Width of pile/conveyor _____ (ft.)

3. Height of pile _____ (ft.)

SECTION IV. Stack Data

☐ Stack ☐ Non-vertical Stack

☒ Vent ☐ Coolie hat or other obstruction

1. Stack Number _____

2. Plant I.D. East Chicago

   Point I.D. #2 , _____ , _____

3. Design Data:

   a. Stack Height (above grade) 50 (ft.)

   b. Grade (above mean sea level) -- (ft.)

   c. Stack diameter, if circular 1.5 (ft.)

   d. Stack Dimensions (length x width in feet, if rectangular) -- x --

   e. Design Exhaust Volume (ACFM) 2,000

   f. Design Exhaust Temperature (°F) ambient

   g. Design % H_2O atmospheric moisture

   h. UTM E 460.9 , N 461.2

4. Operating Information (Actual data for 1975, estimates for other years.)

	Year	1975	1980	1985	1990
b.	ACFM	2,000	No	Change	--
c.	°F	Ambient	--	--	--
d.	% H_2O	atmospheric moisture	--	--	--
e.	Actual Particulate Emissions (lbs./hr.)	.00023*	--	--	--
f.	Actual Sulfur Dioxide Emissions (lbs./hr.)	None	--	--	--

*Based on material balance calculations

EMISSIONS DATA FORM

FOR AGENCY USE
SCC ____ ____ ____ ____
SIC 281-998

SECTION I. Process Information

Company Name M&T Chemicals Inc.

Plant Address 415 E. 151st. St., Box 179, East Chicago, IN 46312

Person to contact L. R. Ward, Plt. Mgr.

Telephone 219-398-3200

1. Process/Operation Name Steam Boiler

2. Equipment Type #6 Oil (Gas-interruptable service)

3. Plant I.D. East Chicago Plant Point I.D. #1

4. Combustion: Yes X No ____
(Please fill in combustion sheet, if applicable.)

5. Stack identification numbers serving process #1, #2, ____

6. Fugitive Emissions: Yes ____ No X
(If yes, please fill in Section III.B. Fugitive Dust Data, for storage piles/conveyors.)

7. Process Location (UTM): E 460.9, N 461.2

8. Maximum Continuous Rating: Design [X] Practical [ ]

a.	Process weight (lbs./hr.)			
b.	Type of product	not applicable	Product weight (lbs./hr.)	not applicable
c.	Type of by-product	" "	By-product weight (lbs./hr.)	" "
d.	Other product	" "	Other product weight (lbs./hr.)	" "

9. Process Information (Actual data for 1975, estimates for other years.)

a. Source installed in 19 52 .

	Year	1975	1980	1985	1990
c.	Process weight (tons/yr.)	not applicable	not applicable	not applicable	not applicable
d.	Product weight (tons/yr.)	"	"	"	"
e.	ACFM (exhaust gases)	"	"	"	"
f.	°F (exhaust gases)	"	"	"	"
g.	% H_2O (exhaust gases)				

(over)

	Year		1975	1980	1985	1990
h.	Operating time (hrs./yr.)		8760	8760	8760	8760
i.	Operating schedule: (% by quarter)	Jan-Mar	25	25	25	25
		Apr-June	25	"	"	"
		July-Sept	25	"	"	"
		Oct-Dec	25	"	"	"

SECTION II. Combustion Data

1. Stack Number #1, #2

2. Plant I.D. East Chicago Plant Point I.D. #1

3. Maximum continuous heat input capacity (million BTU/hr.) 25 each (2 units)

4. Operating Data
(Please provide actual data for 1975 and estimates for other years.)

Year		1975	1980	1985	1990
Solid Fuel:	Input (tons/yr.)				
	% Sulfur				
	% Ash				
	BTU/lb. (gross)				
	BTU/lb. (net)				
Liquid Fuel:	Specify Type	No. 6	No Change		-
	Input (10^3 gal./yr.)	100	110	-	-
	% Sulfur	0.5	-	-	-
	lbs./gallon	7.4 to 8.1	-	-	-
	BTU/lb. (gross)	142,000 to 150,000	-	-	-
	BTU/lb. (net)	-	-	-	-
Gaseous Fuel:	Specify Type	natural gas	No Change		
	Input (10^6 SCF/yr.)	300	-	-	-
	Grains (Equivalent) sulfur/100 SCF	0	-	-	-
	BTU/SCF (gross)	-	-	-	-
	BTU/SCF (net)	-	-	-	-
Other:	Specify Type				
	Quantity (Units =)				
	% Sulfur, Grains/100 SCF				
	BTU/lb., SCF (gross)				
	BTU/lb., SCF (net)				

SECTION III.A. Control Equipment Data

1. Stack Number #1 and #2

2. Plant I.D. East Chicago

Point I.D. #1 , _____ , _____

Year	1975	1980	1985	1990
A. Particulate Control:				
1. Primary Control Device	None	No Change		-
2. Secondary Control Device	"	-	-	-
3. Design efficiency of primary device	"	-	-	-
4. Design efficiency of secondary device	"	-	-	-
5. Actual efficiency of total control	"			
6. Method of determining actual efficiency	"			
7. Estimated efficiency of total control	"			
B. Sulfur Dioxide	None	No Change		-
8. Control Device	"	-	-	-
9. Design Efficiency	"	-	-	-
10. Actual Efficiency	"			
11. Methods of determining actual efficiency	"			
12. Estimated Efficiency	"	-	-	-

SECTION III.B. Fugitive Dust Data

1. Length of pile/conveyor not applicable (ft.)

2. Width of pile/conveyor " " (ft.)

3. Height of pile " " (ft.)

SECTION IV. Stack Data

[X] Stack [ ] Non-vertical Stack

[ ] Vent [ ] Coolie hat or other obstruction

1. Stack Number #1 and #2

2. Plant I.D. East Chicago Plant

   Point I.D. #1 , ,

3. Design Data:

   a. Stack Height (above grade) 60 (ft.)

   b. Grade (above mean sea level) - (ft.)

   c. Stack diameter, if circular 4.2 (ft.)

   d. Stack Dimensions (length x width in feet, if rectangular) ____ x ____

   e. Design Exhaust Volume (ACFM) 6068

   f. Design Exhaust Temperature (^{o}F) 450°

   g. Design % H_2O -

   h. UTM E 460.9 , N 4612.0

4. Operating Information (Actual data for 1975, estimates for other years.)

	Year	1975	1980	1985	1990
b.	ACFM	3600	4000	no change	
c.	^{o}F	450	-	-	-
d.	% H_2O	15.94	-	-	-
e.	Actual Particulate Emissions (lbs./hr.)	0.616*	.67*	-	-
f.	Actual Sulfur Dioxide Emissions (lbs./hr.)	0.014	.015	-	-

*Based on emission factor calculations.

EMISSIONS DATA FORM

FOR AGENCY USE
SCC ____ ____ ____ ____
SIC 281-998

SECTION I. Process Information

Company Name M&T CHEMICALS INC.

Plant Address 415 E. 151st. St., Box 179, East Chicago, IN 46312

Person to contact L. R. Ward, Plt. Mgr.

Telephone 219-398-3200

1. Process/Operation Name Copper Pyrophosphate
2. Equipment Type Glass Lined Reactor
3. Plant I.D. East Chicago Point I.D. 4
4. Combustion: Yes ____ No X
   (Please fill in combustion sheet, if applicable.)
5. Stack identification numbers serving process 4, ____, ____
6. Fugitive Emissions: Yes ____ No X
   (If yes, please fill in Section III.B. Fugitive Dust Data, for storage piles/conveyors.)
7. Process Location (UTM): E 460.9, N 461.2
8. Maximum Continuous Rating: Design ☐ Practical ☒

a.	Process weight (lbs./hr.)	222		
b.	Type of product	copper pyro-phosphate	Product weight (lbs./hr.)	106
c.	Type of by-product	mother liquor	By-product weight (lbs./hr.)	137
d.	Other product	None	Other product weight (lbs./hr.)	None

9. Process Information (Actual data for 1975, estimates for other years.)

   a. Source installed in 19 73 .

	Year	1975	1980	1985	1990
c.	Process weight (tons/yr.)	666	732	No	Change
d.	Product weight (tons/yr.)	318	350	"	"
e.	ACFM (exhaust gases)	600	600	"	"
f.	°F (exhaust gases)	175	175	"	"
g.	% H_2O (exhaust gases)	Saturated	Saturated	"	"

(over)

	Year		1975	1980	1985	1990
h.	Operating time (hrs./yr.)		6,000	No	Change	
i.	Operating schedule: (% by quarter)	Jan-Mar	25	--	--	--
		Apr-June	25	--	--	--
		July-Sept	25	--	--	--
		Oct-Dec	25	--	--	--

SECTION II. Combustion Data

1. Stack Number 4 , _____

2. Plant I.D. East Chicago Plant Point I.D. 4

3. Maximum continuous heat input capacity (million BTU/hr.) —

4. Operating Data
(Please provide actual data for 1975 and estimates for other years.)

Not Applicable

Year		1975	1980	1985	1990
Solid Fuel:	Input (tons/yr.)				
	% Sulfur				
	% Ash				
	BTU/lb. (gross)				
	BTU/lb. (net)				
Liquid Fuel:	Specify Type				
	Input (10^3 gal./yr.)				
	% Sulfur				
	lbs./gallon				
	BTU/lb. (gross)				
	BTU/lb. (net)				
Gaseous Fuel:	Specify Type				
	Input (10^6 SCF/yr.)				
	Grains (Equivalent) sulfur/100 SCF				
	BTU/SCF (gross)				
	BTU/SCF (net)				
Other:	Specify Type				
	Quantity (Units =)				
	% Sulfur; Grains/100 SCF				
	BTU/lb., SCF (gross)				
	BTU/lb., SCF (net)				

SECTION III.A. Control Equipment Data

1. Stack Number 4

2. Plant I.D. East Chicago Plant

Point I.D. 4 , ,

	Year	1975	1980	1985	1990
A.	Particulate Control:	None	No	Change	
	1. Primary Control Device	--	--	--	--
	2. Secondary Control Device	--	--	--	--
	3. Design efficiency of primary device	--	--	--	--
	4. Design efficiency of secondary device	--	--	--	--
	5. Actual efficiency of total control	--	X	X	X
	6. Method of determining actual efficiency	--	X	X	X
	7. Estimated efficiency of total control	--	--	--	--
B.	Sulfur Dioxide	None	--	--	--
	8. Control Device	--	--	--	--
	9. Design Efficiency	--	--	--	--
	10. Actual Efficiency	--	X	X	X
	11. Methods of determining actual efficiency	--	X	X	X
	12. Estimated Efficiency	--	--	--	--

SECTION III.B. Fugitive Dust Data Not Applicable

1. Length of pile/conveyor _____ (ft.)

2. Width of pile/conveyor _____ (ft.)

3. Height of pile _____ (ft.)

SECTION IV. Stack Data

☐ Stack ☐ Non-vertical Stack

☒ Vent ☒ Coolie hat or other obstruction

1. Stack Number 4

2. Plant I.D. East Chicago Plant

   Point I.D. 4 , ,

3. Design Data:

   a. Stack Height (above grade) 30 (ft.)

   b. Grade (above mean sea level) -- (ft.)

   c. Stack diameter, if circular 1 (ft.)

   d. Stack Dimensions (length x width in feet, if rectangular) -- x --

   e. Design Exhaust Volume (ACFM) 600

   f. Design Exhaust Temperature (°F) 200

   g. Design % H_2O Saturated

   h. UTM E 460.9 , N 461.2

4. Operating Information (Actual data for 1975, estimates for other years.)

	Year	1975	1980	1985	1990
b.	ACFM	600	No	Change	
c.	°F	175	—	—	—
d.	% H_2O	Saturated	—	—	—
e.	Actual Particulate Emissions (lbs./hr.)	1.37*	—	—	—
f.	Actual Sulfur Dioxide Emissions (lbs./hr.)	None	—	—	—

*Estimate based on material balance calculations.

February 2, 1976

Department of Air Quality Control
City of East Chicago, Indiana
900 East Chicago Avenue
East Chicago, Indiana 46312

Attention: Mir M. Alikahn
Assistant Director

Gentlemen:

Re: Operating Permit Fees, 1976

The enclosed is a list of fuel burning, gas phase processes, and air pollution control devices currently in use at our facility. The permit fees for these units total $210.00.

This facility does not store volatile organic materials in bulk, so no information is supplied herein on Form ECAQCD 009.

I trust the information supplied is satisfactory, but if there are any further questions, please don't hesitate to call.

Yours very truly,

M&T CHEMICALS INC.

E. W. Brightbill
Plant Engineer

EWB:MS
Att.

Encl. - Check No. 28611 ($210.00)

IT IS OUR UNDERSTANDING THAT THE FOLLOWING DO NOT REQUIRE AN OPERATING PERMIT, AND ARE REPORTED HERE FOR INFORMATION PURPOSES ONLY.

EPARTMENT	UNIT DESCRIPTION	FUEL USED / MATERIAL PROCESSED/ CONTROL DEVICES	DESIGN CAPACITY
FFICE	CENTRAL HEATING PLANT	GAS FIRED, FORCED AIR	400 M BTU/HR.
OUNDRY	ANODE FURNACES (2)	GAS FIRED, EXHAUSTS THROUGH AREA VENTILATION SYSTEM USED TO MELT VARIOUS ALLOYS IN CRUCIBLES	2 X 400 M BTU/HR.
OUNDRY	TIN POTS (2)	GAS FIRED, USED FOR MELTING TIN METAL IN OPEN POTS. NATURAL CONNECTION STACK	ca. 200 M BTU/HR. EACH
ASHING	COPPER PYROPHOSPHATE GRINDER DUST COLLECTOR	TORIT MODEL 90 BAG TYPE DUST COLLECTOR, USED TO CONTROL DUST AROUND GRINDING OPERATION; EXHAUSTS WITHIN THE BUILDING	1500 C.F.M.
'LATING	POLLING - TIN POT	CORBETT FURNACE, SERIAL F121775 FIA USED FOR MELTING TIN METAL IN OPEN POT - NATURAL CONNECTION STACK	675 M BTU/HR.
'LATING	SMELTING - TIN POT	CORBETT FURNACE - SERIAL NOT KNOWN USED FOR MELTING TIN FROM TIN DROSS IN OPEN POT - NATURAL CONNECTION STACK	638 M BTU/HR.

M&T CHEMICALS INC.

415 E. 151st STREET,

EAST CHICAGO, INDIANA 46312

EQUIPMENT LIST FOR OPERATING PERMITS

1976

FOR EAST CHICAGO DEPARTMENT OF AIR QUALITY CONTROL

DEPARTMENT	UNIT DESCRIPTION	FUEL USED / MATERIAL PROCESSED / CONTROL DEVICES	DESIGN CAPACITY	PERMIT
POWERHOUSE ✓	# 1 BOILER	NATURAL GAS / # 6 FUEL OIL, FORCED DRAFT	25 MM BTU/HR.	$ 20.
POWERHOUSE ✓	# 2 BOILER	NATURAL GAS / # 6 FUEL OIL, FORCED DRAFT	25 MM BTU/HR.	$ 20.
NITRITE ✓	NITRITE UNIT, SODIUM NITRITE MANUFACTURE VIA AMMONIA OXIDATION	NO FUEL USED, ANHYDROUS AMMONIA CATALYTICALLY OXIDIZED & GAS STREAM ABSORBED IN CAUSTIC, IN 2 ABSORPTION TOWERS	80 LBS./HR. OF NH_3 USED. = 325 LBS./HR. SODIUM NITRITE PRODUCED.	$ 10.
PLATING	SCRUBBER FOR NICKEL CHLORIDE / SULFATE MANUFACTURE	NO FUEL; A MODEL 702 HEIL SCRUBBER, 2000 CFM, IS USED TO CONTROL HYDROCHLORIC & SULFURIC ACID FUMES, EVOLVED FROM REACTORS	120,000 C.F.H.	$ 30.
PLATING	SCRUBBER FOR NICKEL RECOVERY UNIT	NO FUEL; A MODEL 702 HEIL SCRUBBER, 2000 CFM, IS USED TO CONTROL HYDROCHLORIC ACID FUMES FROM OPERATION.	120,000 C.F.H.	$ 30.
PLATING	COPPER PYROPHOSPHATE OVEN	GAS FIRED JENSEN OVEN, (FOR MOISTURE REMOVAL FROM WET COPPER PYROPHOSPHATE CENTRIFUGE CAKE)	1 MM BTU/HR.	$ 10.
PLATING	DRY BLEND DUST COLLECTOR	TORIT MODEL 90-219-5 BAG TYPE DUST COLLECTOR FOR VENTILATING RIBBON BLENDER USED FOR VARIOUS DRY PRODUCTS	2,000 C.F.M. ⇒ 120,000 C.F.H.	$ 30.
PLATING	NICKEL CARBONATE DRYER DUST COLLECTOR	TORIT MODEL 84-55 BAG TYPE DUST COLLECTOR FOR EXHAUST GASES FROM NICKEL CARBONATE FLUID BED DRYER, USED FOR MOISTURE REMOVAL	1,200 C.F.M. = 72,000 C.F.H.	$ 20.
PLATING	POLLING&MELTING POT DUST COLLECTOR	MICRO-PULSAIRE, SERIAL 71H-41 TYPE 100-C-1 Bag Type Dust COLLECTOR FOR EXHAUST GASES FROM SMELTING & POLLING POTS	3700 CFM = 22000 CFH	$ 30
PLATING	MELTING FURNACE	GAS FIRED - MELTING FURNACE CORBETT - Serial # F121875 FIA	1050M BTU/HR.	$ 10

cc: S. Barr-Pico Rivera
L. Ward-E. Chicago
P. Burnham - GHQ

M&T CHEMICALS INC.
SUBSIDIARY OF AMERICAN CAN COMPANY
GENERAL OFFICES. RAHWAY. NEW JERSEY 07065

Certified Mail
Return Rec. Req.

December 16, 1976

Mr. Robert B. Schaffer, Director
Effluent Guidelines Div.
U.S. Environmental Protection Agency (WH-552)
Washington, D.C. 20460

Dear Mr. Schaffer:

Enclosed please find two Section 308 questionnaires concerning the effluent from the manufacture of nickel sulfate at two M&T Chemicals locations. The two locations are: East Chicago, Indiana, and Pico Rivera, (Los Angeles) California. At both locations, the production of nickel sulfate represents only a small percentage of the total chemical production activity.

The East Chicago facility produces a variety of metal finishing chemical products for copper, nickel and tin plating. In addition, the plant also recovers tin from tin plated steel scrap. This latter operation has considerably stronger waste associated with it when compared to the wastewater from the metal finishing chemicals area. The nickel sulfate process is a batch operation and does not directly produce a wastewater; however, it does produce wastewater from equipment cleaning which cannot be isolated. As a result, the plant has no hard data on wastes associated with the nickel sulfate operation. Other nickel-based chemical solutions are manufactured and traces of nickel are also associated with wastes from the tin recovery operation. Recently, the East Chicago operation underwent a major alteration which, among other effects, permits the tin recovery wastewater to be sold for its alkaline value. As a result, much of the plant's older effluent data is no longer applicable.

The Pico Rivera plant has many similar aspects which makes definition of the nickel sulfate wastewater very difficult. However, Pico Rivera does not recover tin and produces only copper and nickel proprietary plating solutions. The wastewater contains nickel from the manufacture of a variety of other nickel plating compounds.

In all cases, M&T has endeavored to provide the best estimate of the waste associated with just the nickel sulfate operation. Both plants discharge to municipal sewage systems which has minimized the effluent monitoring needs and resulted in a minimum data bank from which to work. If additional information is needed, please contact the writer at your convenience.

Very truly yours,
M&T CHEMICALS INC.

Arthur E. Slesinger
Manager of Environmental Affairs

AES:cc
Enclosure

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

M & T Chemicals
Woodbridge Road & Randolph Ave.
Rahway, New Jersey 07065

OCT 8 1976

Dear Sir:

As you may be aware, the United States Environmental Protection Agency is in the process of reconsidering and issuing regulations with respect to water pollutants discharged as a result of the manufacture of inorganic chemicals. The earlier regulations were issued as 40 C.F.R., Part 415.

The Agency is required to correct the Phase I subcategories remanded by the United States Court of Appeals for the Fourth Circuit in DuPont v. Train, 8 ERC 1718; establish pretreatment standards and review limitations based on best available technology economically achievable and new source standards considering an extended list of pollutants or pollutant parameters as required by the Settlement Agreement approved by the United States District Court for the District of Columbia in Natural Resources Defense Council, et al v. Train, No. 2153-73; and establish regulations for Phase II subcategories that have previously been reserved (40 FR 22402, May 22, 1975).

To carry out these responsibilities, the Agency is collecting additional information on the production processes, raw waste loads, treatment methods and costs, and effluent quality associated with the manufacture of these materials. The Environmental Protection Agency is now soliciting your cooperation in obtaining the necessary information.

According to our records, your Corporation produces one or more of the products on the attached list (Part I) which are Phase I or Phase II Inorganic Chemicals. The information requested shall be provided for each plant of your firm in the format of the attached portfolios. This will allow the Agency to correlate and make available to interested parties the results of the data gathered. If our records are incorrect, please inform us as soon as possible. In order to expedite the process we have sent a copy of this letter and portfolio to those individuals and plants of your firm as noted on the attached list.

The information requested in this letter and the enclosed data collection portfolio is sought pursuant to Section 308 of the Federal Water Pollution Control Act Amendments of 1972. That section authorizes this Agency, whenever required for developing any effluent limitation, or other limitation, prohibition, or effluent standard, pretreatment standard or standard of performance

under this Act, to require the owner or operator of any point source to establish and maintain such records, make such reports, install, use and maintain such monitoring equipment or methods (including where appropriate, biological monitoring methods), sample such effluents (in accordance with such methods, at such locations, at such intervals, and in such manner as the Administrator shall prescribe), and provide such other information as the Agency may reasonably require, and to have access to and copy any records, inspect any monitoring equipment and sample any effluents.

Information requested pursuant to Section 308 may not be withheld from EPA on the ground that it is considered to be confidential or proprietary. Section 308(b), however, does accord protection to trade secrets. Accordingly, please indicate clearly on your response any information which you consider to be confidential or to constitute a trade secret, so that the Agency may take appropriate protective measures. Any information not so identified in your response will not be accorded this protection by the Agency. Effluent data cannot be protected as trade secrets. Any data may be disclosed to officers, employees, or authorized representatives of the United States concerned with carrying out the Act or when relevant in any proceeding under the Act.

For your convenience, a data collection portfolio has been enclosed with this letter. This form is divided into several parts. Those parts that are applicable to your operations should be filled out and returned to the Agency as soon as possible but in no event later than sixty days after receipt of the letter. The parts contained in the data collection portfolio are as follows:

Part 1. General Information

Part 2. Water Use, Reuse and Discharge

Part 3. Treatment Technology

Please answer all items. Also, please provide a separate set of responses for each plant. If a question is not applicable to a particular facility, indicate by writing "Not Applicable". If an item is not known, indicate unknown and include an explanation

of the reason for not knowing such information. If an item seems ambiguous, complete as best as possible and state your assumptions in clarifying the apparent ambiguity. Also, submit copies of the raw data sheets compiled in completing this form. Please submit all information in triplicate.

The Agency will review the information submitted and may, at a later date, require site visits and additional sampling in order to complete the data base.

Thank you in advance for the cooperation of your company. The Environmental Protection Agency is committed to promulgating effluent regulations which are in accordance with the Federal Water Pollution Control Act and which are reasonable. The Agency has found that only with complete cooperation of all parties concerned can thoughtful and fair regulations be published. I am confident that we can anticipate your assistance in carrying out that goal.

Should you have any questions regarding this request, please do not hesitate to contact Mr. Walter J. Hunt at (202) 426-2724, or Mr. Elwood E. Martin (202) 426-2440.

Sincerely yours,

for Robert B. Schaffer
Director
Effluent Guidelines Division (WH 552)

RBS/jr

Enclosures

Corporation M&T Chemicals Inc.

Plant East Chicago

City East Chicago State Indiana

INORGANIC CHEMICALS CATEGORY

PART I - GENERAL INFORMATION

To be returned within 60 days of receipt to:

Robert B. Schaffer, Director
Effluent Guidelines Division
U. S. EPA (WH-552)
Washington, D. C. 20460

1. Name of Corporation M&T Chemicals Inc.

2. Address of Corporation Headquarters
   Street: Woodbridge Road and Randolph Avenue
   City: Rahway
   State: New Jersey Zip Code 07065

3. Name of Plant
   East Chicago Plant

4. Address of Plant
   Street: 415 East 151st Street
   City: East Chicago
   State: Indiana Zip Code 46312

5. Name(s) of corporation personnel to be contacted for information pertaining to this data collection portfolio.

Name	Title	(Area Code) Telephone
A. E. Slesinger	Mgr. of Environmental Affairs	(201) 499-2409
T. G. Meglis	Environmental Engineer	(201) 499-2403

6. Plant NPDES Permit Number(s) None - Plant discharges waste stream to municipal treatment plant.

   If no permit, application number Not Applicable

   Date of application

Corporation M&T Chemicals Inc.

Plant East Chicago Plant

City East Chicago State Indiana

Plant Name/Location East Chicago Plant/East Chicago, Indiana

7. Products produced at this plant site:

Indicate which of the products shown in List 1 (Inorganic Chemicals - page 5) that you produce at this site and the production rate during the period January 1, 1975 to June 30, 1976. If there is more than one process type for a given product, identify and list each separately.

Product	Process	Design Capacity lbs/day	Average Daily Production While Operating lbs/day	Year of Process Inst
Nickel Sulfate	Nickel Oxide & H_2SO_4	30210	20,112	197

Attach additional pages, if necessary.

Corporation M&T Chemicals Inc.

Plant East Chicago Plant

City East Chicago State Indiana

List 1 - INORGANIC CHEMICALS

Aluminum Chloride
Aluminum Fluoride
Aluminum Sulfate
Ammonium Chloride
Ammonium Hydroxide
Barium Carbonate
Borax
Boric Acid
Bromine
Calcium Carbide
Calcium Carbonate
Calcium Chloride
Calcium Hydroxide
Calcium Oxide
Carbon Dioxide
Carbon Monoxide
Chlorine and Sodium Hydroxide or Potassium Hydroxide
Chrome Green
Chrome Orange
Chrome Yellow
Chromic Acid - by product
Chromic Oxide - by product
Copper Sulfate
Cuprous Oxide
Ferric Chloride
Ferrous Sulfate
Fluorine
Hydrochloric Acid
Hydrofluoric Acid
Hydrogen
Hydrogen Cyanide
Hydrogen Peroxide
Iodine
Iron Blues
Lead Oxide
Lithium Carbonate
Manganese Sulfate
Molybdate Chrome Orange
Nickel Sulfate — M&T Product
Nitric Acid
Nitric Acid (Strong)
Nitrogen
Oxygen
Potassium Chloride
Potassium Chromate
Potassium Iodide
Potassium Metal
Potassium Permanganate
Potassium Sulfate
Silver Nitrate
Sodium Bicarbonate
Sodium Bisulfite
Sodium Carbonate
Sodium Chloride
Sodium Dichromate and Sodium Sulfate
Sodium Fluoride
Sodium Hydrosulfide
Sodium Hydrosulfite
Sodium Metal
Sodium Silicate
Sodium Silicofluoride
Sodium Sulfite
Sodium Thiosulfate
Stannic Oxide — out of the business
Sulfur Dioxide
Sulfuric Acid
Titanium Dioxide
Zinc Oxide
Zinc Sulfate
Zinc Yellow

Corporation M&T Chemicals Inc.

Plant East Chicago Plant

City East Chicago State Indiana

8. In the blanks following, list all other products manufacturered at this same site in the amount of 100,000 pounds per year or more, or at least one percent of the plant's total production. Additionally, list all other products manufactured at this same site which have waste characteristics that may have an adverse effect on the waste treatment plant efficiency. Minor products may be grouped in this listing if the products are similar in nature and made by similar processes. The products should be listed individually with a total production indicated for the group in all instances where grouping is used to report.

Product	Process	Design Capacity lbs/~~day~~ yr.	Average Daily Production While Operating lbs/day
Liquid Proprietaries for:			
Copper plating		390,000	
Nickel "		3,309,500	
Nickel-Iron Plating		748,500	
Alstan "		121,000	
Zinc "		450,500	
Stripping Operation		157,000	
Copper Cpds.		886,500	
Dry Blends for:			
Nickel Process		108,500	
Cleaners		9,676,000	
Alstan Process		637,000	
Anokleen "		567,000	
Strippers "		1,050,000	
Niplex "		200,000	
Copper "		1,100,000	
Supercarb "		620,000	
Nickel Solutions		1,740,000	
Nickel Pwd., Dry		629,000	
Copper Prod.		830,000	
Tin Prod.		17,800,000	

CONFIDENTIAL INFORMATION

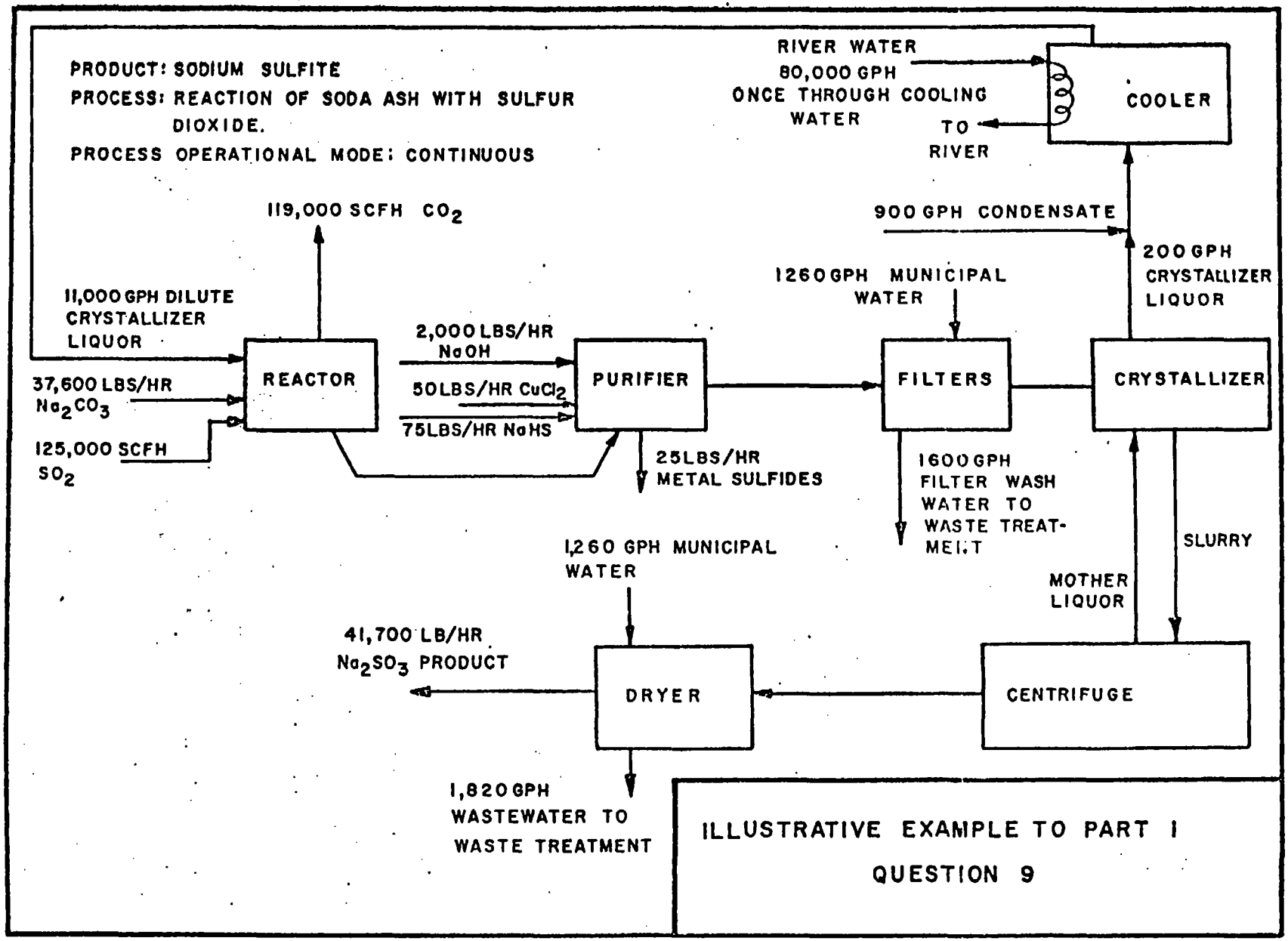
9. For each product indicated in response to Question 7 of Part 1, attach a process flow diagram which identifies the unit operations involved in each product manufacturing process and all sources and quantities of wastewaters from the process operations. Show recycle loops for both process water and non-contact cooling water. Indicate and quantify raw materials, catalysts, activators, solvents and both contact and non-contact water entering each operation. Identify air pollution control devices associated with the process and quantify air flows and wastewater streams from each device. All water and materials feed rates should have a common unit of time; for example, gallons per hour or pounds per hour. Supplement the diagram with a narrative description for clarity or completeness, where necessary. An illustrative example flow diagram is presented on page 6 for your convenience.

   The respondent may use process flow diagrams from EPA Development Documents if representative of the process. The process diagrams should be modified to include all requested information.

   On each process flow diagram, clearly state whether the process operational mode is batch, continuous or other. If the answer is "other" the operational mode should be specified. If the process is batch or semi-continuous, list the hours per day of operation.

10. Describe the process modifications made to each process described in response to Question 9 since January 1, 1972 that affect either the volume of wastewater or the amount of pollutants originating from that process. Explain the purpose behind each of these modifications. Give your best estimate as to the technological age of each process installation as it now exists.

11. For each individual product or group of products identified in response to Question 8 of Part I, describe and quantify the sources and quantities of wastewaters for the production process. Indicate for each process whether the operational mode is batch, continuous or other. If "other", specify the operational mode. If the process is batch or semi-continuous, list the hours per day of operation.


PRODUCT: SODIUM SULFITE
PROCESS: REACTION OF SODA ASH WITH SULFUR DIOXIDE.
PROCESS OPERATIONAL MODE: CONTINUOUS
RIVER WATER
80,000 GPH
ONCE THROUGH COOLING WATER
TO RIVER
COOLER
119,000 SCFH CO_2
900 GPH CONDENSATE
200 GPH CRYSTALLIZER LIQUOR
1260 GPH MUNICIPAL WATER
11,000 GPH DILUTE CRYSTALLIZER LIQUOR
2,000 LBS/HR NaOH
50 LBS/HR $CuCl_2$
75 LBS/HR NaHS
37,600 LBS/HR Na_2CO_3
125,000 SCFH SO_2
REACTOR
PURIFIER
FILTERS
CRYSTALLIZER
25 LBS/HR METAL SULFIDES
1600 GPH FILTER WASH WATER TO WASTE TREATMENT
1,260 GPH MUNICIPAL WATER
SLURRY
MOTHER LIQUOR
41,700 LB/HR Na_2SO_3 PRODUCT
DRYER
CENTRIFUGE
1,820 GPH WASTEWATER TO WASTE TREATMENT
ILLUSTRATIVE EXAMPLE TO PART I
QUESTION 9

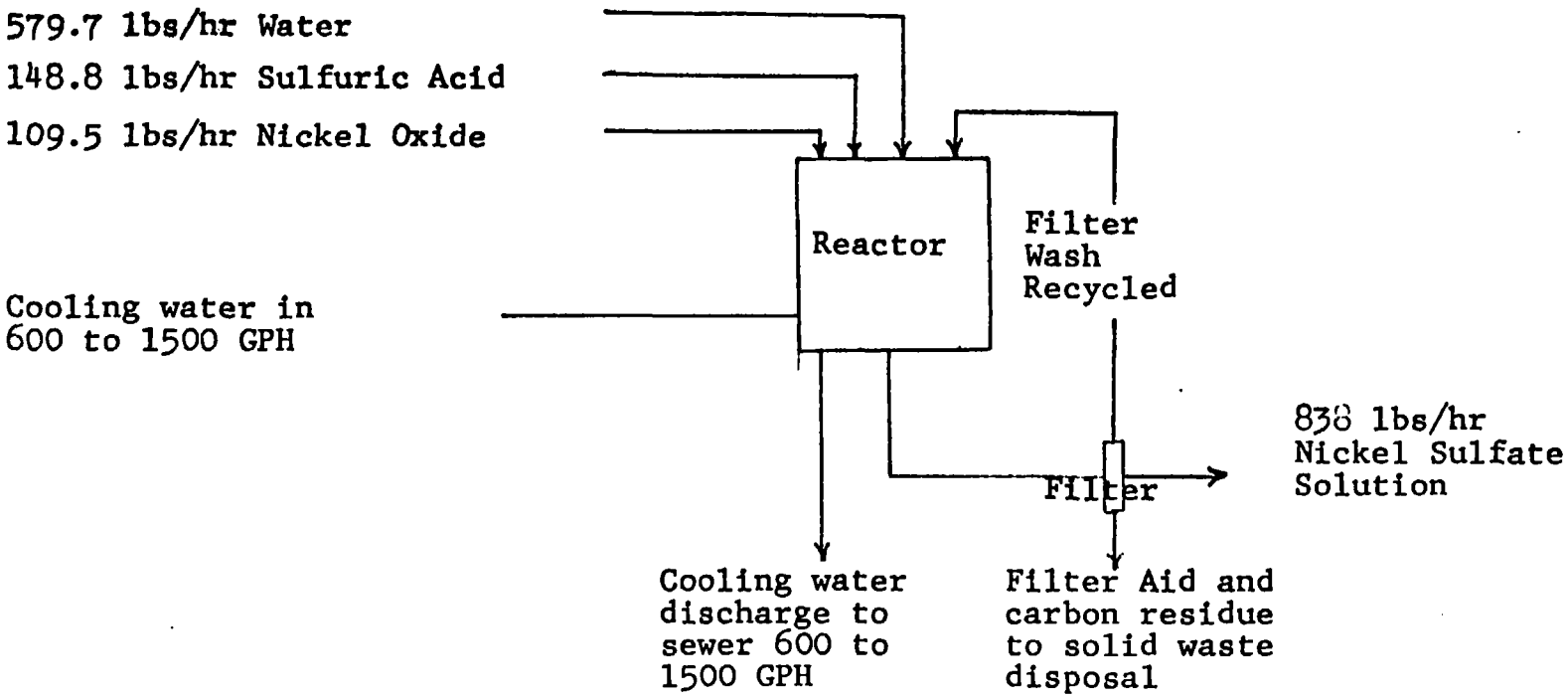
Product: Nickel Sulfate, liquid

Process: Reaction of Nickel Oxide with sulfuric acid

Operation: Batch

M&T Chemicals Inc.
East Chicago, Indiana

CONFIDENTIAL INFORMATION



Corporation M&T Chemicals Inc.

Plant East Chicago Plant

City East Chicago State Indiana

INORGANIC CHEMICALS CATEGORY

Part II - WATER USE, RE-USE, AND DISCHARGE

To be returned within 60 days of receipt to:

Robert B. Schaffer, Director
Effluent Guidelines Division
U. S. EPA (WH-552)
Washington, D. C. 20460

1. Water Use and Disposition: Total Plant Needs During The Period January 1, 1975 to June 30, 1976

For each process at your plant producing a product identified in List 1 in Part I, list the sources and quantities of water used in the process and describe the disposition of wastewaters. If a time period of less than January 1, 1975 to June 30, 1976 is used, state the reason for the shorter period or state that the values used are representative of that period. Use a separate sheet for each product (or process where more than one process is used at the plant to produce a particular product). Where values are not known for individual products, groupings of products may be used which give the greatest amount of detail available.

Product(s) Nickel Sulfate

Process(s) _____

A. Water Source:

	Total Plant	Nickel Process* Values representative of period Time Period Jan.-Aug.1976 of Calculation
Municipal	125,000 MGD (average value)	1400 GPM
Surface	---------- MGD	
Ground	---------- MGD	
Other (specify)	------ MGD	

B. Uses:

	Total Plant	Nickel Process
Non-contact cooling	.016 MGD	1000 GPH
Direct process contact (as diluent, solvent, carrier, reactant, by-product, cooling, etc.)	.0925 MGD	70 GPH
Indirect process contact (pumps, seals, leaks, spills, etc.)	.004 MGD	50 GPH
Maintenance, equipment cleaning and work area washdown	.004 MGD	130 GPH

*Best data available since process start-up.

Corporation M&T Chemicals Inc.

Plant East Chicago Plant

City East Chicago State Indiana

		Time Period of Calculation
Air Pollution Control	MGD	
Non-contact ancillary uses (boilers, utilities, etc.)	MCD	50
Sanitary and potable water .008500	MGD	
Other (specify)	MGD	100

C. Source of Wastewater Flows:

Non-contact cooling .016	MGD	Jan. to Aug. 1976
Direct process contact .049	MGD	
Indirect process contact .004	MGD	
Non-contact ancillary uses .004	MGD	
Sanitary and potable water .0085	MGD	
Storm water (collected in treatment system)	MGD	
Other (specify)	MGD	

D. Process Wastewater Discharged to:

Surface water or storm sewer	MGD	
Treated	MGD	
Untreated	MGD	
Municipal Sewage Treatment Plant .0815	MGD	Jan. to Aug. 1976
Deep Well	MGD	
Other (specify and describe briefly)	MGD	

If process wastewater is discharged to a municipal treatment plant, answer the following questions:

Name of Treatment Plant East Chicago Sanitary District

City East Chicago State Indiana

Is discharge to municipal sewage treatment plant pretreated?

[X] Yes [ ] No

If yes, describe pretreatment Solids removed by settling and equalization.

If discharge to surface water, what is the name of the receiving water? No discharge to surface waters

2. Water Reuse:

Attach a separate sheet of paper describing each water recirculation and reuse system in your plant. Include process water and non-contact cooling water. Specify the blowdown control systems in operation (i.e., the volume and percent of blowdown and the basis, such as TDS, chromium, phosphate, pH, temperature, etc.) Attach a flow diagram of the system and identify that portion(s) common to all categories of products manufactured at your plant and that portion(s) specific to only inorganic chemicals.

3. Quality of Water Discharged:

Attach all in-plant and treatment plant influent and effluent water analysis data obtained from January 1, 1975 to June 30, 1976. Include flow rates and all parameters analyzed, such as (but not limited to) BOD_5, COD, TOC, TSS, TDS, ammonia, TKN, cyanide (total/oxidizable), chromium (total/hexavalent), oil and grease, sulfites, sulfides, free chlorine, wastewater and ambient air temperature, significant metals and specific organic compounds. Clearly describe the location of each sampling point and describe the source(s) of wastewater (e.g., untreated or treated process wastewater from the TiO_2 washing process, non-contact cooling water blowdown, etc.). Include daily production figures for each product identified in Part I, Questions 7 and 8.

In addition, summarize this data by completing Tables A, B, C and D, as per the instructions which follow. Information regarding influent and effluent waste loads of each wastewater treatment facility is requested in Tables A and C, respectively. Table B requests data on each untreated wastewater discharge point. Table D requests waste loads from each individual production process. If data for individual waste streams is not available, information for combined waste streams should be furnished which represents the greatest degree of detail available. The tables are located at the end of this section.

Instructions for Completing Tables A, B, C and D:

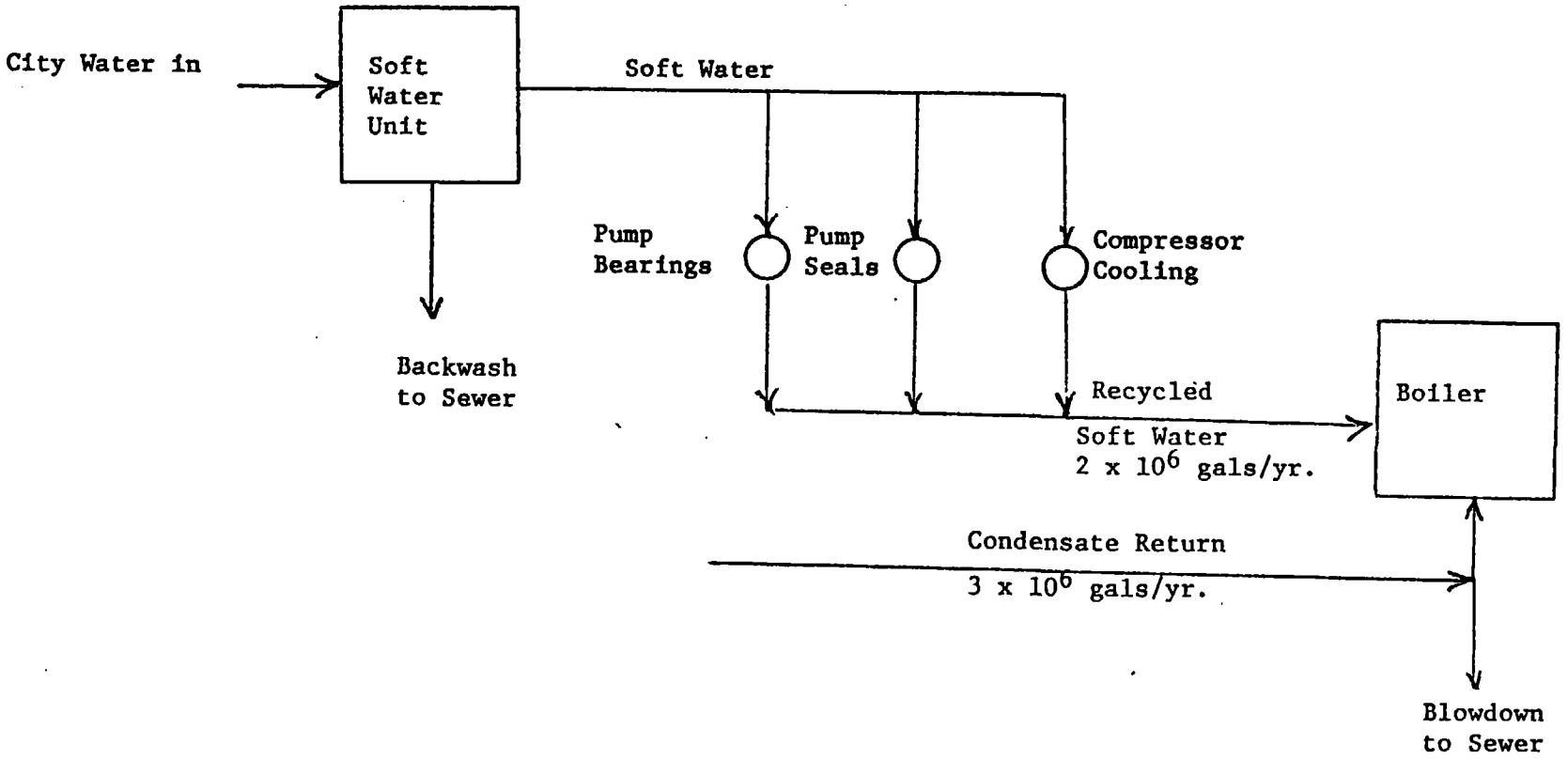
For Tables A, B, C and D use the following definitions and notes.

Flow - Do not include rainfall runoff, unless it is collected in the treatment system. If collected, estimate the percent of total flow which is attributed to this source.

Average day - Should represent the average of the data period covered.

M&T Chemicals Inc.
East Chicago, Indiana

EAST CHICAGO WATER RE-USE FLOW PLAN



Significant parameters - Those potential pollutants not specifically listed, but which are introduced into the waste streams as a result of materials used, product produced, process used and for which you have test data.

Identify all data which results from abnormal operating conditions.

Table A - Complete Table A for the combined influent to each treatment facility.

Table B - Complete Table B for each untreated waste discharge point (to surface waters, deep wells, land application, etc.)

Table C - Complete Table C for the treated effluent from each treatment facility. Not applicable to plants that have not yet installed waste treatment facilities. This section is not restricted by type of treatment.

Table D - Complete Table D for the process wastewaters from each of the product/process lines identified in Part I. Do not include non-contact cooling waters but do include all contact cooling waters. If measured values are not known or not available, supply the best estimate available and specify the basis for the estimate.

4. The method of sample collection for the data supplied in response to Question 3, Tables A, B, C and D, should be specified (e.g., daily grab sample, 8 hour flow composited, 24 hour continuous, etc.)

5. Were EPA-approved methods of analysis used in developing data reported in response to Question 3, Tables A, B, C and D?

[X] Yes [ ] No

If no, the methods of analysis should be indicated _____

_____

_____

6. Has the seed used in the BOD_5 test been acclimated to the wastewaters that have been tested?

[X] Yes [ ] No

If yes, what is the source of the seed

A [X] sewage treatment plant

B [ ] plant treatment facility

C [ ] laboratory acclimation

D [ ] other explain_____

7. Do leaks of process wastewater or materials into non-contact cooling water occur?

[ ] Yes [X] No

If yes, complete the following:

(a) Is data based on:

[ ] (A) Records

[ ] (B) Best Estimate, Basis_____

_____

(b) Source of Leaks_____

_____

(c) Frequency_____

_____

(d) Quantity Leaked_____gallon/day

(e) Material(s) Leaked_____

_____

(f) Average Duration of Shutdown for repair_____days

8. Do start-up and/or shutdown operations adversely affect wastewater volume and characteristics?

[ ] Yes [X] No

If yes, complete the following:

(a) Identify affected waste streams_____

_____

_____

Corporation M&T Chemicals Inc.

Plant East Chicago Plant

City East Chicago State Indiana

(b) Describe the quantitative and qualitative changes in the wastewater_____

_____

_____

(c) Average number of start-ups/shutdowns per month_____

(d) Average duration of start-ups_____hours

(e) Average duration of shutdowns_____hours

(f) Are by-pass or equalization facilities available for these wastewaters?

☐ Yes ☐ No

If yes, explain_____

_____

_____

TABLE A

WASTE LOADS TO TREATMENT FACILITIES

Corporation M&T Chemicals Inc.

Plant East Chicago Plant

City East Chicago State Indiana

Treatment Facility Name

Treatment Facility Description

Wastewater Sources Nickel Sulfate production and proprietary plating compounds. Tin recovery from steel scrap process.

Parameter	Daily Minimum	Daily Average	Daily Maximum	Monthly Averages Minimum	Monthly Averages Maximum	80% Decrease Revised Results Remarks
Flow (MGD)					.081500	.081500
pH (pH units)					10.6	8.5
Temperature (°C) - Wastewater					33°C	33°C
Temperature (°C) - Ambient Air						
BOD_5 (lbs/day)					262	52
COD (lbs/day)					1213	242
TOC (lbs/day)						
TSS (lbs/day)					826	165
TDS (lbs/day)					7273	1454
NH_3 as N (lbs/day)					2.2	0.4
NO_3 as N (lbs/day)					2.2	0.4
TKN as N (lbs/day)						
Phenol (lbs/day)					0.14	0.03
Chlorine, free (lbs/day)						
Fluoride (lbs/day)					1.69	0.34
Oil and Grease (lbs/day)					57.3	11.46
PO_4 as P (lbs/day)						
Total P as P (lbs/day)						
Cr, total (lbs/day)					0.027	0.005
Cr, hexavalent (lbs/day)						
Cn, total (lbs/day)						
Cn, oxidizable (lbs/day)					0.78	0.156
Sulfide (lbs/day)						
Sulfite (lbs/day)						
Significant Metals (Identify)						
_____ (lbs/day)						92.9
_____ (lbs/day)						46.4
_____ (lbs/day)						
_____ (lbs/day)						
_____ (lbs/day)						
Others (Identify)						
~~Phosphorous~~ (lbs/day)					~~40.5~~	~~8.1~~
~~Iron~~ (lbs/day)					~~6.2~~	~~1.2~~
~~Sulfate~~ (lbs/day)					~~543.5~~	104.5
Tin (lbs/day)					~~35.3~~	7.0

Sheet _____ of _____.

Corporation Mol Chemicals Inc.

Plant East Chicago Plant

City East Chicago State Indiana

INORGANIC CHEMICALS CATEGORY

PART III - TREATMENT TECHNOLOGY

To be returned within 60 days of receipt to:

Robert B. Schaffer, Director
Effluent Guidelines Division
U. S. EPA (WH-552)
Washington, D. C. 20460

A. Do you have a treatment facility(ies) at this plant?

☐ Yes

☒ No Essentially no treatment facilities except equalization tank where some solids are settled out prior to municipal discharge.

If yes, complete the following and attach a flow sheet indicating waste streams treated, unit sizes of treatment equipment, detention times, recycle rates, effluent concentration or design criteria, and other pertinent engineering information for the operation of each treatment facility. Include treatment of storm runoff, where applicable. For each facility complete the following:

Name of Facility _____

Source(s) of Wastewater _____

_____

_____

	Year	Cost (1976 Dollars)
1. Original installation (battery limits only-do not include cost of land, collecting sewers, in-plant piping, pumping stations, etc.)	____	_____
2. Estimated replacement cost	____	_____
3. Estimated total capital expenditure for this facility to date.		_____
4. Annual cost of operation and maintenance (exclude depreciation and debt service)		_____

SL-1

DEPARTMENT OF AIR QUALITY CONTROL
CITY OF EAST CHICAGO, INDIANA
EMISSION INVENTORY FORM

Information is to be representative of calendar year 197 8

Complete all spaces

Name of Plant: N&T Chemicals Inc.
Plant Address: 415 E. 151 st. Street, East Chicago IN
Nature of Business: (S.I.C.) 2819 Department:
Person to contact to implement episode alert: M. Carr
Title: Plant Manager
Phone: Day 219-398-3000 Night 219-663-0382
DATE: 1-15-79

GRID COORDINATE: EAST (mi) NORTH (mi)

STACK DESIGNATION[1] No Emission Point — SHEET NO

Stack Height (ft.)	Exit Diameter (ft.)	Volume (acf/hr.)	Heat Emission Rate (BTU/hr.)	Temperature (°F)	Velocity (ft./hr.)	COMPOSITION BY VOLUME %													
						O_2	N_2	NO	NO_x	CO	CO_2	HC	H_2O	H_2S	SO_2	SO_3	Fluorides	Chlorides	Other [4]	Other [4]

FUEL BURNING SOURCES[2]

SOURCE[1] DESIGNATION	RATED CAPACITY (10^6 BTU/hr.)	TYPE OF FUEL	ASH CONTENT %	ASH CONTENT (lbs./10^6 BTU)	SULFUR CONTENT %	SULFUR CONTENT (lbs./10^6 BTU)	AMOUNT OF[3] FUEL	UNCONTROLLED EMISSION[2] FACTOR Pollutant	TOTAL UNCONTROLLED EMISSION lbs./hr.	TOTAL UNCONTROLLED EMISSION Ton/yr	CONTROL EQUIPMENT Type[6]	CONTROL EQUIPMENT % Efficiency	ACTUAL EMISSIONS lbs./hr.	ACTUAL EMISSIONS Ton/yr.	OFFICE REMARKS	OPERATING SCHEDULE % TIME SHIFT HOURS	WEEK-DAY	SAT.	SUN.
	NONE							Particulate								8-4			
								SO_2											
								CO								4-12			
								NOx											
								Hydrocarbon								12-4			
								Hzd Metal											
								Other											

WASTE DISPOSAL SYSTEMS (Name, description and mode of disposal) | Material disposed | Amount disposed/hour | Amount disposed/year

PROCESS SOURCES[2]

PROCESS[1] DESIGNATION	RATED[1] CAPACITY	TYPE OF PROCESS	RAW MATERIALS SOLIDS TYPE &	RAW MATERIALS LIQUIDS TYPE &	RAW MATERIALS GASES TYPE &	PRODUCTS SOLIDS TYPE &	PRODUCTS LIQUIDS TYPE &	PRODUCTS GASES TYPE &	UNCONTROLLED[2] EMISSION FACTOR Pollutant	TOTAL UNCONTROLLED EMISSION lb./hr	TOTAL UNCONTROLLED EMISSION T/Y	CONTROL EQUIPMENT Type[6]	CONTROL EQUIPMENT % Efficiency	ACTUAL EMISSIONS lbs./hour	ACTUAL EMISSIONS Ton/yr.	OFFICE REMARKS	OPERATING SCHEDULE % TIME SHIFT HOURS	WEEK-DAY	SAT.	SUN.
Tin Sol Process	960,000 per year	Inorganic Chemical Reaction	Pot. Stannate Sod.Stannate	Acetic Acid	CO_2				Particulate								8-4	50%	-	-
									SO_2										
									CO								4-12	50%	-	-
									NOx	NO EMISSION FROM PROCESS									
									Hydrocarbon										
									Hzd Metal								12-4	0%	-	-
									Other										

WASTE DISPOSAL SYSTEMS (Name, description and mode of disposal) | Material disposed | Amount disposed/hour | Amount disposed/year

EMERGENCY CONTROL STRATEGY (Check box, in order of preference, which would make a 20% or more pollution reduction).

☐ Switching Of Fuel ☐ Less Fuel Usage ☒ 1 Production Schedule Change ☒ 2 Curtailment Of Production ☐ Other

COMMENTS:

1. Use effective plume height in the absence of a stack.
2. Refer to EPA's compilation of Air Pollutant Emission Factors (AP 42), Feb., 1976 Edition or later in the absence of actual test results. When factors are not available in AP 42 publication use other Engineering techniques such as material balance.
3. Use and note SCC (Source Classification Code) and SCC units where applicable
4. When using these spaces, list all Gaseous Emission % by Volume and Solid Emissions lbs /scf.
5. Use test results when available, use prefix T, D or A to indicate test, designed or assumed efficiency figures, example T90 or A85
6. Use abbreviation such as BH = Bag House, VS = Venturi Scrubber, MC = Multicyclones, WW = Wet Washer, I = Incineration, SP = Sulfur Plant.

Certified by: Michael A Gaw
Signature of Responsible Member of Firm

EC AQCD 011 8MAR

BL -2

DEPARTMENT OF AIR QUALITY CONTROL
CITY OF EAST CHICAGO, INDIANA
EMISSION INVENTORY FORM

Information is to be representative of calendar year 1978

Complete all spaces

Name of Plant: M&T Chemicals Inc.
Plant Address: 415 E. 151st. St., East Chicago, IN
Nature of Business: I.S.I.C.: 2819 Department
Person to contact to implement episode alert: M. Carr
Title: Plant Manager
Phone: Day 219-398-3000 Night 219-663-0382
DATE: 1-15-79

GRID COORDINATE: EAST 460890 (mi) NORTH 4607570 (mi)

STACK DESIGNATION[1]

SHEET NO

Stack Height (ft)	Exit Dia. Meter (ft)	Volume (scf/hr.)	Heat Emission Rate (BTU/hr.)	Temperature (°F)	Velocity (ft./hr.)	COMPOSITION BY VOLUME %													
						O_2	N_2	NO	NO_x	CO	CO_2	HC	H_2O	H_2S	SO_x	SO_2	Fluorides	Chlorides	Other [4]	Other [4]
			-0-	Amb.															

FUEL BURNING SOURCES[1]

SOURCE[3] DESIGNATION	RATED CAPACITY (10⁶ BTU/hr.)	TYPE OF FUEL	ASH CONTENT %	ASH CONTENT (lbs / 10⁶ BTU)	SULFUR CONTENT %	SULFUR CONTENT (lbs / 10⁶ BTU)	AMOUNT OF FUEL[3]	UNCONTROLLED EMISSION[2] FACTOR Pollutant	TOTAL UNCONTROLLED EMISSION lbs./hr.	TOTAL UNCONTROLLED EMISSION Ton/yr	CONTROL EQUIPMENT Type[6]	CONTROL EQUIPMENT % Efficiency	ACTUAL EMISSIONS lbs./hr.	ACTUAL EMISSIONS Ton/yr.	OFFICE REMARKS	OPERATING SCHEDULE % TIME SHIFT HOURS	WEEK-DAY	SAT.	SUN.
	None							Particulate								8-4			
								SO_x											
								CO								4-12			
								NO_x											
								Hydrocarbon								12-4			
								Hzd. Metal											
								Other											

WASTE DISPOSAL SYSTEMS (Name, description and mode of disposal) | Material disposed | Amount disposed/hour | Amount disposed/year

PROCESS SOURCES[2]

PROCESS[3] DESIGNATION	RATED[3] CAPACITY	TYPE OF PROCESS	RAW MATERIALS SOLIDS TYPE &	RAW MATERIALS LIQUIDS TYPE &	RAW MATERIALS GASES TYPE &	PRODUCTS SOLIDS TYPE &	PRODUCTS LIQUIDS TYPE &	PRODUCTS GASES TYPE &	UNCONTROLLED[3] EMISSION FACTOR Pollutant	TOTAL UNCONTROLLED EMISSION lb /hr	TOTAL UNCONTROLLED EMISSION T/Y	CONTROL EQUIPMENT Type[6]	CONTROL EQUIPMENT % Efficiency	ACTUAL EMISSIONS lbs./hour	ACTUAL EMISSIONS Ton/yr.	OFFICE REMARKS	OPERATING SCHEDULE % TIME SHIFT HOURS	WEEK-DAY	SAT.	SUN.
Copper Pyrophosphate	2550 lbs day	Inorganic chemical reactions	$CuSO_4$ 87.5 lbs/hr. TSPP 50 lbs/hr.	Water 84 lbs/hr.		Copper Pyrophosphate 106 lbs/hr.	Water 137 lbs/hr.		Particulate								8-4	50%		
									SO_x											
									CO								4-12	50%		
									NO_x											
									Hydrocarbon											
									Hzd. Metal								12-4	0%		
									Other	Vent off atmospheric pressure reactor - some dust or water may leave via vent.						vapor				

WASTE DISPOSAL SYSTEMS (Name, description and mode of disposal) | Material disposed | Amount disposed/hour | Amount disposed/year: 250 lbs/year.

EMERGENCY CONTROL STRATEGY (Check box, in order of preference, which would make a 20% or more pollution reduction).

☐ Switching Of Fuel ☐ Less Fuel Usage ☒ Production Schedule Change[1] ☒ Curtailment Of Production[2] ☐ Other

COMMENTS:

1 Use effective plume height in the absence of a stack.
2 Refer to EPA's compilation of Air Pollutant Emission Factors (AP 42), Feb., 1976 Edition or later in the absence of actual test results. When factors are not available in AP 42 publication use other Engineering techniques such as material balance.
3 Use and note SCC (Source Classification Code) and SCC units where applicable
4 When using these spaces, list all Gaseous Emission % by Volume and Solid Emissions lbs /scf.
5 Use test results when available, use prefix T, D or A to indicate test, designed or assumed efficiency figures, example T99 or A85
6 Use abbreviation such as BH = Bag House, VS = Venturi Scrubber, MC = Multicyclones, WW = Wet Washer, I = Incineration, SP = Sulfur Plant.

Certified by _____
Signature of Responsible Member of Firm

EC AQCD 011 (6440)

SL - 3

DEPARTMENT OF AIR QUALITY CONTROL
CITY OF EAST CHICAGO, INDIANA
EMISSION INVENTORY FORM

Information is to be representative of calendar year 1978

Complete all spaces

Name of Plant: V&T Chemicals Inc.
Plant Address: 415 E. 151st. St., East Chicago, IN
Nature of Business (S.I.C.): 2819 Department:
Person to contact to implement episode alert: M. Carr
Title: Plant Manager
Phone: Day 219-398-3000 Night 219-663-0382
DATE: 1-15-79

GRID COORDINATE: EAST (mi) NORTH (mi)

STACK DESIGNATION[1] No Emission Stack — SHEET NO

Stack Height (ft)	Exit Dia-Meter (ft)	Volume (acf/hr)	Heat Emission Rate (BTU/hr)	Temperature (°F)	Velocity (ft./hr.)	COMPOSITION BY VOLUME %													
						O_2	N_2	NO	NO_x	CO	CO_2	HC	H_2O	H_2S	SO_2	SO_3	Fluorides	Chlorides	Other [4]	Other [4]

FUEL BURNING SOURCES[2]

SOURCE[3] DESIGNATION	RATED CAPACITY (10⁶ BTU/hr.)	TYPE OF FUEL	ASH CONTENT %	ASH CONTENT (lbs./10⁶ BTU)	SULFUR CONTENT %	SULFUR CONTENT (lbs./10⁶ BTU)	AMOUNT OF[3] FUEL	UNCONTROLLED EMISSION[2] FACTOR Pollutant	UNCONTROLLED EMISSION[2] FACTOR lb/10⁶ ft³	TOTAL UNCONTROLLED EMISSION lbs./hr.	TOTAL UNCONTROLLED EMISSION Ton/yr.	CONTROL EQUIPMENT Type[6]	CONTROL EQUIPMENT % Efficiency[5]	ACTUAL EMISSIONS lbs /hr.	ACTUAL EMISSIONS Ton/yr.	OFFICE REMARKS	OPERATING SCHEDULE % TIME SHIFT HOURS	WEEK-DAY	SAT	SUN
Copper Pyrophosphate Drier Over	1 mm BTU / hour	Nat. Gas		-0-		-0-	~1000 ft³/hr	Particulate	10	.01				.01			8-4			
								SO_2	0.6	.0006				.0006		Oven runs 2 times per month, 48 hours per runs. Numbers are from AP42 Emission Factors				
								CO	20	.02				.02			4-12	SEE REMARKS		
								NOx	100	.10				.10						
								Hydrocarbon	8	.008				.008			12-4			
								Haz Metal		-0-				-0-						
								Other												

WASTE DISPOSAL SYSTEMS (Name, descript-on and mode of disposal) | Material disposed | Amount disposed/hour | Amount disposed/year

PROCESS SOURCES[2]

PROCESS[3] DESIGNATION	RATED[3] CAPACITY	TYPE OF PROCESS	RAW MATERIALS SOLIDS TYPE &	RAW MATERIALS LIQUIDS TYPE &	RAW MATERIALS GASES TYPE &	PRODUCTS SOLIDS TYPE &	PRODUCTS LIQUIDS TYPE &	PRODUCTS GASES TYPE &	UNCONTROLLED[3] EMISSION FACTOR Pollutant	UNCONTROLLED[3] EMISSION FACTOR	TOTAL UNCONTROLLED EMISSION lb /hr	TOTAL UNCONTROLLED EMISSION T/Y	CONTROL EQUIPMENT Type[6]	CONTROL EQUIPMENT % Efficiency[5]	ACTUAL EMISSIONS lbs./hour	ACTUAL EMISSIONS Ton/yr.	OFFICE REMARKS	OPERATING SCHEDULE % TIME SHIFT HOURS	WEEK-DAY	SAT	SUN
	None								Particulate									8-4			
									SO_2												
									CO									4-12			
									NOx												
									Hydrocarbon												
									Haz Metal									12-4			
									Other												

WASTE DISPOSAL SYSTEMS (Name, description and mode of disposal) | Material disposed | Amount disposed/hour | Amount disposed/year

EMERGENCY CONTROL STRATEGY (Check box, in order of preference, which would make a 20% or more pollution reduction)

☐ Switching Of Fuel ☐ Less Fuel Usage ☑ 1 Production Schedule Change ☑ 2 Curtailment Of Production ☐ Other

COMMENTS:

1 Use effective plume height in the absence of a stack.
2. Refer to EPA's compilation of Air Pollutant Emission Factors (AP 42), Feb., 1976 Edition or later in the absence of actual test results.
When factors are not available in AP 42 publication use other Engineering techniques such as material balance.
3 Use and note SCC (Source Classification Code) and SCC units where applicable.
4 When using these spaces, list all Gaseous Emission % by Volume and Solid Emissions lbs /acf
5 Use test results when available, use prefix T, D or A to indicate test, designed or assumed efficiency figures, example T99 or A85.
6 Use abbreviation such as BH = Bag House, VS = Venturi Scrubber, MC = Multicyclones, WW = Wet Washer, I = Incineration, SP = Sulfur Plant.

Certified by _____
Signature of Responsible Member of Firm

EC AQCD 011 (8/80)

SL - 4

DEPARTMENT OF AIR QUALITY CONTROL
CITY OF EAST CHICAGO, INDIANA
EMISSION INVENTORY FORM
Information is to be representative of calendar year 197 8

Complete all spaces

Name of Plant: M&T Chemicals Inc.
Plant Address: 615 E. 151st St., East Chicago, IN
Nature of Business: (S.I.C.) _____ Department _____
Person to contact to implement episode alert: M. Case
Title: Plant Manager
Phone: Day 219-398-3000 Night 219-663-0382
DATE: 1-15-79

STACK DESIGNATION[1] No Emission Stack — SHEET NO

Stack Height (ft.)	Exit Dia. Meter (ft.)	Volume (scf/hr.)	Heat Emission Rate (BTU/hr.)	Temperature (°F)	Velocity (ft./hr.)	COMPOSITION BY VOLUME %													
						O_2	N_2	NO	NO_x	CO	CO_2	HC	H_2O	H_2S	SO_2	SO_3	Fluorides	Chlorides	Other [4]	Other [4]

GRID COORDINATE: EAST (mi) NORTH (mi)

FUEL BURNING SOURCES[2]

SOURCE[3] DESIGNATION	RATED CAPACITY (10^6 BTU/hr.)	TYPE OF FUEL	ASH CONTENT %	ASH CONTENT (lbs./10^6 BTU)	SULFUR CONTENT %	SULFUR CONTENT (lbs./10^6 BTU)	AMOUNT OF FUEL[3]	UNCONTROLLED EMISSION FACTOR[2] Pollutant	TOTAL UNCONTROLLED EMISSION lbs./hr.	TOTAL UNCONTROLLED EMISSION Ton/yr.	CONTROL EQUIPMENT Type[6]	CONTROL EQUIPMENT % Efficiency	ACTUAL EMISSIONS lbs./hr.	ACTUAL EMISSIONS Ton/yr.	OFFICE REMARKS	OPERATING SCHEDULE % TIME: SHIFT HOURS	WEEK-DAY	SAT.	SUN.
	None							Particulate								8-4			
								SO_x											
								CO								4-12			
								NO_x											
								Hydrocarbon								12-4			
								Hzd. Metal											
								Other											

WASTE DISPOSAL SYSTEMS (Name, description and mode of disposal) | Material disposed | Amount disposed/hour | Amount disposed/year

PROCESS SOURCES[2]

PROCESS[3] DESIGNATION	RATED[3] CAPACITY	TYPE OF PROCESS	RAW MATERIALS SOLIDS TYPE &	RAW MATERIALS LIQUIDS TYPE &	RAW MATERIALS GASES TYPE &	PRODUCTS SOLIDS TYPE &	PRODUCTS LIQUIDS TYPE &	PRODUCTS GASES TYPE &	UNCONTROLLED[2] EMISSION FACTOR Pollutant	TOTAL UNCONTROLLED EMISSION lbs./hr.	TOTAL UNCONTROLLED EMISSION T/Y	CONTROL EQUIPMENT Type[6]	CONTROL EQUIPMENT % Efficiency	ACTUAL EMISSIONS lbs./hour	ACTUAL EMISSIONS Ton/yr.	OFFICE REMARKS	OPERATING SCHEDULE % TIME: SHIFT HOURS	WEEK-DAY	SAT.	SUN.
Copper Pyrophosphate Grinder Blender	4000# per 8 hrs		Copper Pyrophosphate			Copper Pyrophosphate			Particulate	5#/hr		BH	99.9%	.005#/hr		Operates 2/month 12 hours per run	8-4	See Remarks		
									SO_x											
									CO								4-12			
									NO_x			Assumed Efficiency								
									Hydrocarbon											
									Hzd. Metal											
									Other								12-4			

WASTE DISPOSAL SYSTEMS (Name, description and mode of disposal) | Material disposed | Amount disposed/hour | Amount disposed/year

EMERGENCY CONTROL STRATEGY (Check box, in order of preference, which would make a 20% or more pollution reduction).

☐ Switching Of Fuel ☐ Less Fuel Usage ☒ 1 Production Schedule Change ☒ 2 Curtailment Of Production ☐ Other

COMMENTS:

1. Use effective plume height in the absence of a stack.
2. Refer to EPA's compilation of Air Pollutant Emission Factors (AP 42), Feb., 1976 Edition or later in the absence of actual test results. When factors are not available in AP 42 publication use other Engineering techniques such as material balance.
3. Use and note SCC (Source Classification Code) and SCC units where applicable
4. When using these spaces, list all Gaseous Emission % by Volume and Solid Emissions lbs /scf
5. Use test results when available, use prefix T, D or A to indicate test, designed or assumed efficiency figures, example T99 or A85.
6. Use abbreviation such as BH = Bag House, VS = Venturi Scrubber, MC = Multicyclones, WW = Wet Washer, I = Incineration, SP = Surfur Plant.

EC AQCD011

Certified by _____
Signature of Responsible Member of Firm

SL - S - 6

DEPARTMENT OF AIR QUALITY CONTROL
CITY OF EAST CHICAGO, INDIANA
EMISSION INVENTORY FORM

Information is to be representative of calendar year 197 8

Complete all spaces

Name of Plant: M&T Chemicals Inc.
Plant Address: 415 E. 151st St., East Chicago, IN
Nature of Business: (S.I.C.) 2819 Department
Person to contact to implement episode alert M. Carr
Title Plant Manager
Phone: Day 219-398-3000 Night 219-663-0387
DATE 1-15-79

STACK DESIGNATION[1] — SHEET NO

Stack Height (ft.)	Exit Dia. Meter (ft.)	Volume (scf./hr.)	Heat Emission Rate (BTU/hr.)	Temperature (°F)	Velocity (ft./hr.)	COMPOSITION BY VOLUME %													
						O_2	N_2	NO	NO_x	CO	CO_2	HC	H_2O	H_2S	SO_2	SO_3	Fluorides	Chlorides	Other [4]	Other [4]
		125,000		Amb.		21	79												

GRID COORDINATE: EAST 460880 (m) NORTH 4607570 (m)

FUEL BURNING SOURCES[2]

SOURCE[1] DESIGNATION	RATED CAPACITY (10^6 BTU/hr.)	TYPE OF FUEL	ASH CONTENT %	ASH CONTENT (lbs./10^6 BTU)	SULFUR CONTENT %	SULFUR CONTENT (lbs./10^6 BTU)	AMOUNT OF[3] FUEL	UNCONTROLLED EMISSION[2] FACTOR Pollutant	TOTAL UNCONTROLLED EMISSION lbs./hr.	TOTAL UNCONTROLLED EMISSION Ton/yr	CONTROL EQUIPMENT Type[4]	CONTROL EQUIPMENT % Efficiency	ACTUAL EMISSIONS lbs./hr.	ACTUAL EMISSIONS Ton/yr.	OFFICE REMARKS	OPERATING SCHEDULE % TIME SHIFT HOURS	WEEK-DAY	SAT	SUN
	None							Particulate								8-4			
								SO_x											
								CO								4-12			
								NOx											
								Hydrocarbon								12-4			
								Hsd. Metal											
								Other											

WASTE DISPOSAL SYSTEMS (Name, description and mode of disposal) | Material disposed | Amount disposed/hour | Amount disposed/year

PROCESS SOURCES[2]

PROCESS[1] DESIGNATION	RATED[3] CAPACITY	TYPE OF PROCESS	RAW MATERIALS SOLIDS TYPE &	RAW MATERIALS LIQUIDS TYPE &	RAW MATERIALS GASES TYPE &	PRODUCTS SOLIDS TYPE &	PRODUCTS LIQUIDS TYPE &	PRODUCTS GASES TYPE &	UNCONTROLLED[2] EMISSION FACTOR Pollutant		TOTAL UNCONTROLLED EMISSION lb./hr.	TOTAL UNCONTROLLED EMISSION T/Y	CONTROL EQUIPMENT Type[4]	CONTROL EQUIPMENT % Efficiency	ACTUAL EMISSIONS lbs./hour	ACTUAL EMISSIONS Ton/yr.	OFFICE REMARKS	OPERATING SCHEDULE % TIME SHIFT HOURS	WEEK-DAY	SAT.	SUN.
Dry Blender	5000# batch		Caustic Soda, Soda Ash, Sod. Bisulfate } Total Charge 3000#/batch			~3000 lbs batch			Particulate	0.01	30 lbs/batch		BH	99.9%	.35	0.2		8-4	50%		
									SO_x									4-12	50%		
									CO												
									NOx									12-4			
									Hydrocarbon												
									Hsd. Metal												
									Other												

WASTE DISPOSAL SYSTEMS (Name, description and mode of disposal) | Material disposed | Amount disposed/hour | Amount disposed/year

EMERGENCY CONTROL STRATEGY (Check box, in order of preference, which would make a 20% or more pollution reduction)

☐ Switching Of Fuel ☐ Less Fuel Usage ☐ Production Schedule Change ☒ Curtailment Of Production ☐ Other

COMMENTS: Emission assumes 0.02 grains/SCF which probably only occurs at charging and discharging materials to the blender.

1 Use effective plume height in the absence of a stack.
2. Refer to EPA's compilation of Air Pollutant Emission Factors (AP 42), Feb., 1976 Edition or later in the absence of actual test results.
When factors are not available in AP 42 publication use other Engineering techniques such as material balance.
3 Use and note SCC (Source Classification Code) and SCC units where applicable
4 When using these spaces, list all Gaseous Emission % by Volume and Solid Emissions lbs./scf
5 Use test results when available, use prefix T, D or A to indicate test, designed or assumed efficiency figures, example T99 or A85
6 Use abbreviation such as BH = Bag House, VS = Venturi Scrubber, MC = Multicyclones, WW = Wet Washer, I = Incineration, SP = Surge Plate

Certified by Michael A Parr
Signature of Responsible Member of Firm

EC AQCD 011 (MAR)

SL -7
SL -9

2 Idential Points

DEPARTMENT OF AIR QUALITY CONTROL
CITY OF EAST CHICAGO, INDIANA
EMISSION INVENTORY FORM

Information is to be representative of calendar year 1978

Complete all spaces

Name of Plant: M&T Chemicals Inc.
Plant Address: 415 E. 151st St., East Chicago, IN
Nature of Business: (S.I.C.) 2819 Department
Person to contact to implement episode alert: M. Carr
Title: Plant Manager
Phone: Day 219-398-3000 Night 219-663-0382
DATE: 1-15-79

GRID COORDINATES: EAST 460850 mm; NORTH 4607575 mm

STACK DESIGNATION[1]

SHEET NO

Stack Height (ft.)	Exit Diameter (ft.)	Volume (acf/hr.)	Heat Emission Rate (BTU/hr.)	Temperature (°F)	Velocity (ft./hr.)	COMPOSITION BY VOLUME %													
						O_2	N_2	NO	NO_x	CO	CO_2	HC	H_2O	H_2S	SO_2	SO_3	Fluorides	Chlorides	Other[4]	Other[4]

FUEL BURNING SOURCES[2]

SOURCE[3] DESIGNATION	RATED CAPACITY (10^6 BTU/hr.)	TYPE OF FUEL	ASH CONTENT %	ASH CONTENT (lbs./10^6 BTU)	SULFUR CONTENT %	SULFUR CONTENT (lbs./10^6 BTU)	AMOUNT OF FUEL[3]	UNCONTROLLED EMISSION[2] FACTOR Pollutant	UNCONTROLLED EMISSION[2] FACTOR lbs/10^6 ft^3	TOTAL UNCONTROLLED EMISSION lbs./hr.	TOTAL UNCONTROLLED EMISSION Tons/yr.	CONTROL EQUIPMENT Type[5]	CONTROL EQUIPMENT % Efficiency	ACTUAL EMISSIONS for each stack lbs./hr.	ACTUAL EMISSIONS for each stack Tons/yr.	OFFICE REMARKS	OPERATING SCHEDULE % TIME SHIFT HOURS	WEEK-DAY	SAT	SUN
Tin Melting Process	2 at .35 x 10^6 BTU/hour	natural gas		-0-		-0-	350 ft^3/hour	Particulate	10	.0035				.0035	1.4		8-4	100%		
								SO_2	0.6	.00021				.0002	.08					
								CO	20	.007				.007	2.9		4-12	-0-		
								NO_x	100	.035				.035	14					
								Hydrocarbon	8	.0028				.0028	1.16		12-4	-0-		
								Hzd. Metal												
								Other												

WASTE DISPOSAL SYSTEMS (Name, description and mode of disposal)	Material disposed	Amount disposed/hour	Amount disposed/year

PROCESS SOURCES[2]

PROCESS[3] DESIGNATION	RATED[3] CAPACITY	TYPE OF PROCESS	RAW MATERIALS SOLIDS TYPE &	RAW MATERIALS LIQUIDS TYPE &	RAW MATERIALS GASES TYPE &	PRODUCTS SOLIDS TYPE &	PRODUCTS LIQUIDS TYPE &	PRODUCTS GASES TYPE &	UNCONTROLLED[2] EMISSION FACTOR Pollutant		TOTAL UNCONTROLLED EMISSION lbs/hr	TOTAL UNCONTROLLED EMISSION T/Y	CONTROL EQUIPMENT Type[5]	CONTROL EQUIPMENT % Efficiency	ACTUAL EMISSIONS lbs./hour	ACTUAL EMISSIONS Tons/yr.	OFFICE REMARKS	OPERATING SCHEDULE % TIME SHIFT HOURS	WEEK-DAY	SAT	SUN
	None								Particulate									8-4			
									SO_2												
									CO									4-12			
									NO_x												
									Hydrocarbon									12-4			
									Hzd. Metal												
									Other												

WASTE DISPOSAL SYSTEMS (Name, description and mode of disposal)	Material disposed	Amount disposed/hour	Amount disposed/year

EMERGENCY CONTROL STRATEGY (Check box, in order of preference, which would make a 20% or more pollution reduction)

☐ Switching Of Fuel ☐ Less Fuel Usage ☒ 1 Production Schedule Change ☒ 2 Curtailment Of Production ☐ Other

COMMENTS: Emission factors from AP-42

1. Use effective plume height in the absence of a stack.
2. Refer to EPA's compilation of Air Pollutant Emission Factors (AP 42), Feb., 1976 Edition or later in the absence of actual test results. When factors are not available in AP 42 publication use other Engineering techniques such as material balance
3. Use and note SCC (Source Classification Code) and SCC units where applicable
4. When using these spaces, list all Gaseous Emission % by Volume and Solid Emissions lbs./scf.
5. Use test results when available, use prefix T, D or A to indicate test, designed or assumed efficiency figures, example T99 or A85.
6. Use abbreviation such as BH = Bag House, VS = Venturi Scrubber, MC = Multicyclones, WW = Wet Washer, I = Incineration, SP = Sulfur Plant.

EC AQCD 011 (MAR)

Certified by: Michael A. Carr
Signature of Responsible Member of Firm

SL -8

DEPARTMENT OF AIR QUALITY CONTROL
CITY OF EAST CHICAGO, INDIANA
EMISSION INVENTORY FORM

Information is to be representative of calendar year 1978

Complete all spaces

Name of Plant: M&T Chemicals Inc.
Plant Address: 415 E. 151st St., East Chicago, IN.
Nature of Business: (S.I.C.) _____ Department _____
Person to contact to implement episode alert: M. Carr
Title: Plant Manager
Phone: Day 219-398-3000 Night 219-663-0382
DATE: 1-15-79

GRID COORDINATE: EAST 460868 (mi) NORTH 4607575 (mi)

STACK DESIGNATION[1] — SHEET NO.

Stack Height (ft.)	Exit Diameter (ft.)	Volume (scf/hr.)	Heat Emission Rate (BTU/hr.)	Temperature (°F)	Velocity (ft./hr.)	COMPOSITION BY VOLUME %													
						O_2	N_2	NO	NO_x	CO	CO_2	HC	H_2O	H_2S	SO_2	SO_3	Fluorides	Chlorides	Other [4]	Other [4]

FUEL BURNING SOURCES[2]

SOURCE[3] DESIGNATION	RATED CAPACITY (10^6 BTU/hr.)	TYPE OF FUEL	ASH CONTENT %	ASH CONTENT (lbs./10^6 BTU)	SULFUR CONTENT %	SULFUR CONTENT (lbs./10^6 BTU)	AMOUNT OF[3] FUEL ft^3/hour	UNCONTROLLED EMISSION[2] FACTOR Pollutant	UNCONTROLLED EMISSION[2] FACTOR lbs/10^6 ft^3	TOTAL UNCONTROLLED EMISSION lbs./hr.	TOTAL UNCONTROLLED EMISSION Ton/yr.	CONTROL EQUIPMENT Type[4]	CONTROL EQUIPMENT % Efficiency	ACTUAL EMISSIONS lbs./hr.	ACTUAL EMISSIONS Ton/yr.	OFFICE REMARKS	OPERATING SCHEDULE % TIME SHIFT HOURS	WEEK-DAY	SAT.	SUN.
Tin Feathering Process (melting pot)	.9x10^6/BTU	Natural Gas		-0-		-0-	~900	Particulate	10	.009				.009		Operates 3 shifts per week.	8-4	See Remarks		
								SO_x	0.6	.0005		NONE		.0005						
								CO	20	.018				.018			4-12			
								NOx	100	.09				.09						
								Hydrocarbon	8	.007				.007			12-4			
								Hzd. Metal												
								Other												

WASTE DISPOSAL SYSTEMS (Name, description and mode of disposal) | Material disposed | Amount disposed/hour | Amount disposed/year

PROCESS SOURCES[2]

PROCESS[3] DESIGNATION	RATED[3] CAPACITY	TYPE OF PROCESS	RAW MATERIALS SOLIDS TYPE &	RAW MATERIALS LIQUIDS TYPE &	RAW MATERIALS GASES TYPE &	PRODUCTS SOLIDS TYPE &	PRODUCTS LIQUIDS TYPE &	PRODUCTS GASES TYPE &	UNCONTROLLED[3] EMISSION FACTOR Pollutant	TOTAL UNCONTROLLED EMISSION lb./hr.	TOTAL UNCONTROLLED EMISSION T/Y	CONTROL EQUIPMENT Type[4]	CONTROL EQUIPMENT % Efficiency	ACTUAL EMISSIONS lbs./hour	ACTUAL EMISSIONS Ton/yr.	OFFICE REMARKS	OPERATING SCHEDULE % TIME SHIFT HOURS	WEEK-DAY	SAT.	SUN.
None	—								Particulate								8-4			
									SO_x											
									CO								4-12			
									NOx											
									Hydrocarbon								12-4			
									Hzd. Metal											
									Other											

WASTE DISPOSAL SYSTEMS (Name, description and mode of disposal) | Material disposed | Amount disposed/hour | Amount disposed/year

EMERGENCY CONTROL STRATEGY (Check box, in order of preference, which would make a 20% or more pollution reduction).

☐ Switching Of Fuel ☐ Less Fuel Usage ☒ 1 Production Schedule Change ☐ 2 Curtailment Of Production ☐ Other

COMMENTS: Emission factors from AP-42.

1. Use effective plume height in the absence of a stack.
2. Refer to EPA's compilation of Air Pollutant Emission Factors (AP 42), Feb., 1976 Edition or later in the absence of actual test results. When factors are not available in AP 42 publication use other Engineering techniques such as material balance.
3. Use and note SCC (Source Classification Code) and SCC units where applicable.
4. When using these spaces, list all Gaseous Emission % by Volume and Solid Emissions lbs./scf.
5. Use test results when available, use prefix T, D or A to indicate test, designed or assumed efficiency figures, example T99 or A85.
6. Use abbreviation such as BH = Bag House, VS = Venturi Scrubber, MC = Multicyclones, WW = Wet Washer, I = Incinerator, SP = Sulfur Plant.

Certified by _____ Signature of Responsible Member of Firm

EC AQCD 011 (MAR)

SL -10
SL -11

DEPARTMENT OF AIR QUALITY CONTROL
CITY OF EAST CHICAGO, INDIANA
EMISSION INVENTORY FORM

Information is to be representative of calendar year 197 8

Complete all spaces

Name of Plant: M&T Chemicals Inc.
Plant Address: 415 E. 151st St., East Chicago, IN
Nature of Business: (SIC): _____ Department _____
Person to contact to implement episode alert: M. Carr
Title: Plant Manager
Phone: Day 219-398-3000 Night 219-663-0382
DATE: 1/15/79

GRID COORDINATE: EAST 460870 (m) NORTH 4607575 (m)

STACK DESIGNATION[1]

SHEET NO.

Stack Height (ft)	Exit Dia. Meter (ft)	Volume (act./hr.)	Heat Emission Rate (BTU/hr.)	Temperature (°F)	Velocity (ft./hr.)	COMPOSITION BY VOLUME %													
						O_2	N_2	NO	NO_x	CO	CO_2	HC	H_2O	H_2S	SO_2	SO_3	Fluorides	Chlorides	Other [4]	Other [4]

FUEL BURNING SOURCES[2]

SOURCE[3] DESIGNATION	RATED CAPACITY (10⁶ BTU/hr.)	TYPE OF FUEL	ASH CONTENT %	ASH CONTENT (lbs./10⁶ BTU)	SULFUR CONTENT %	SULFUR CONTENT (lbs./10⁶ BTU)	AMOUNT OF[3] FUEL	UNCONTROLLED EMISSION[2] FACTOR Pollutant	UNCONTROLLED EMISSION[2] FACTOR lbs/10⁶ ft³	TOTAL UNCONTROLLED EMISSION lbs./hr.	TOTAL UNCONTROLLED EMISSION Ton/yr.	CONTROL EQUIPMENT Type[4]	CONTROL EQUIPMENT % Efficiency	ACTUAL EMISSIONS lbs./hr.	ACTUAL EMISSIONS Ton/yr.	OFFICE REMARKS	OPERATING SCHEDULE % TIME SHIFT HOURS	WEEK-DAY	SAT	SUN
Tin feathering drying over	1.5×10^6 BTU/hour	Natural Gas		-0-		-0-	1500 ft³/hour	Particulate	10	.015						Operated 3 shifts per week	8-4	See Remarks		
								SO_2	0.6	.0009										
								CO	20	.03							4-12			
								NOx	100	.15										
								Hydrocarbon	8	.012							12-4			
								Hzd. Metal												
								Other												

WASTE DISPOSAL SYSTEMS (Name, description and mode of disposal) | Material disposed | Amount disposed/hour | Amount disposed/year

PROCESS SOURCES[2]

PROCESS[3] DESIGNATION	RATED[3] CAPACITY	TYPE OF PROCESS	RAW MATERIALS SOLIDS TYPE &	RAW MATERIALS LIQUIDS TYPE &	RAW MATERIALS GASES TYPE &	PRODUCTS SOLIDS TYPE &	PRODUCTS LIQUIDS TYPE &	PRODUCTS GASES TYPE &	UNCONTROLLED[2] EMISSION FACTOR Pollutant	TOTAL UNCONTROLLED EMISSION lb./hr	TOTAL UNCONTROLLED EMISSION T/Y	CONTROL EQUIPMENT Type[4]	CONTROL EQUIPMENT % Efficiency	ACTUAL EMISSIONS lbs./hour	ACTUAL EMISSIONS Ton/yr.	OFFICE REMARKS	OPERATING SCHEDULE % TIME SHIFT HOURS	WEEK-DAY	SAT	SUN
Tin Feathering	1000# per hr	Tin Melting & Drying	Tin Metal			Tin Metal			Particulate							3 Shifts per week	8-4	See Remarks		
									SO_2											
									CO								4-12			
									NOx											
									Hydrocarbon											
									Hzd. Metal											
									Other Tin Powder		1#/hr		Cyclone	~98%	.02#/hr		12-4			

WASTE DISPOSAL SYSTEMS (Name, description and mode of disposal): Reintroduced into Process | Material disposed | Amount disposed/hour | Amount disposed/year: None

EMERGENCY CONTROL STRATEGY (Check box, in order of preference, which would make a 20% or more pollution reduction)

☐ Switching Of Fuel ☐ Less Fuel Usage ☐ Production Schedule Change ☒ Curtailment Of Production ☐ Other

COMMENTS: Emission factors from AP-42

1 Use effective plume height in the absence of a stack.
2 Refer to EPA's compilation of Air Pollutant Emission Factors (AP 42), Feb., 1976 Edition or later in the absence of actual test results. When factors are not available in AP 42 publication use other Engineering techniques such as material balance.
3 Use and note SCC (Source Classification Code) and SCC units where applicable.
4 When using these spaces, list all Gaseous Emission % by Volume and Solid Emissions lbs /scf.
5 Use test results when available, use prefix T, D or A to indicate test, designed or assumed efficiency figures, example T99 or A85.
6 Use abbreviation such as Bh = Bag House, VS = Venturi Scrubber, MC = Multicyclones, WW = Wet Washer, I = Incinerator, SP = Surge Plant.

Certified by _____ Signature of Responsible Member of Firm

EC AQCD 011 (MAR)

SL - 12
SL - 13

DEPARTMENT OF AIR QUALITY CONTROL
CITY OF EAST CHICAGO, INDIANA
EMISSION INVENTORY FORM
Information is to be representative of calendar year 197 8
Complete all spaces

Name of Plant: H&T Chemicals Inc.
Plant Address: 415 E. 151st. St.
Nature of Business. (S.I.C.): 2819 Department
Person to contact to implement episode alert: M. Case
Title: Plant Manager
Phone: Day 219-398-3000 Night 219-663-0282
DATE: 1-15-79

GRID COORDINATE: EAST 460910 (m) NORTH 4707570 (m)

STACK DESIGNATION[1]

SHEET NO.

Stack Height (ft.)	Exit Dia. Meter (ft.)	Volume (scf/hr.)	Heat Emission Rate (BTU/hr.)	Temperature (°F)	Velocity (ft./hr.)	COMPOSITION BY VOLUME %													
						O_2	N_2	NO	NO_x	CO	CO_2	HC	H_2O	H_2S	SO_2	SO_3	Fluorides	Chlorides	Other [4]	Other [4]
		120,000		AMB.															

FUEL BURNING SOURCES[2]

SOURCE[3] DESIGNATION	RATED CAPACITY (10^6 BTU/hr.)	TYPE OF FUEL	ASH CONTENT %	ASH CONTENT (lbs/10^6 BTU)	SULFUR CONTENT %	SULFUR CONTENT (lbs/10^6 BTU)	AMOUNT OF[3] FUEL	UNCONTROLLED EMISSION[2] FACTOR Pollutant	TOTAL UNCONTROLLED EMISSION lbs./hr.	TOTAL UNCONTROLLED EMISSION Ton/yr.	CONTROL EQUIPMENT Type[5]	CONTROL EQUIPMENT % Efficiency	ACTUAL EMISSIONS lbs./hr.	ACTUAL EMISSIONS Ton/yr.	OFFICE REMARKS	OPERATING SCHEDULE % TIME SHIFT HOURS	WEEK-DAY	SAT	SUN
	None							Particulate								8-4			
								SO_2											
								CO								4-12			
								NOx											
								Hydrocarbon								12-4			
								Hzd. Metal											
								Other											

WASTE DISPOSAL SYSTEMS (Name, description and mode of disposal) | Material disposed | Amount disposed/hour | Amount disposed/year

PROCESS SOURCES[2]

PROCESS[3] DESIGNATION	RATED[3] CAPACITY	TYPE OF PROCESS	RAW MATERIALS SOLIDS TYPE &	RAW MATERIALS LIQUIDS TYPE &	RAW MATERIALS GASES TYPE &	PRODUCTS SOLIDS TYPE &	PRODUCTS LIQUIDS TYPE &	PRODUCTS GASES TYPE &	UNCONTROLLED[2] EMISSION FACTOR Pollutant		TOTAL UNCONTROLLED EMISSION lb./hr	TOTAL UNCONTROLLED EMISSION T/Y	CONTROL EQUIPMENT Type[6]	CONTROL EQUIPMENT % Efficiency	ACTUAL EMISSIONS lbs./hour	ACTUAL EMISSIONS Ton/yr.	OFFICE REMARKS	OPERATING SCHEDULE % TIME SHIFT HOURS	WEEK-DAY	SAT	SUN
Nickel Chemical Process	800 gallon reactors	Inorganic chemical reaction	Nickel Oxide Sulfamic Acid	HCl H_2SO_4			Liquid Nickel Salts ~ 1000 lbs.		Particulate									8-4	50%		
									SO_2												
									CO									4-12	50%		
									NOx												
									Hydrocarbon												
									Hzd. Metal												
									Other Acid Mist	.001	10		WW	A80%	2(A)	4.2		12-4	-0-		

WASTE DISPOSAL SYSTEMS (Name, description and mode of disposal) | Material disposed | Amount disposed/hour | Amount disposed/year

EMERGENCY CONTROL STRATEGY (Check box, in order of preference, which would make a 20% or more pollution reduction).

☐ Switching Of Fuel ☐ Less Fuel Usage ☑ Production Schedule Change[1] ☒ Curtailment Of Production[2] ☐ Other

COMMENTS:

2/800 units are served by a common stack, exact poundage depends upon which product is being made. Approx. 1000 lbs. of nickel salt solution prepared per batch. Emissions probably only occur during charging of the acids to the reactors. Tanks are not run simultaneously.

1 Use effective plume height in the absence of a stack.
2 Refer to EPA's compilation of Air Pollutant Emission Factors (AP 42), Feb., 1976 Edition or later in the absence of actual test results. When factors are not available in AP 42 publication use other Engineering techniques such as material balance.
3 Use and note SCC (Source Classification Code) and SCC units where applicable.
4 When using these spaces, list all Gaseous Emission % by Volume and Solid Emissions lbs /scf
5 Use test results when available, use prefix T, D or A to indicate test, designed or assumed efficiency figures, example T99 or A85.
6 Use abbreviation such as BH = Bag House, VS = Venturi Scrubber, MC = Multicyclones, WW = Wet Washer, I = Incineration, SP = Surge Plate.

Certified by: [signature] Signature of Responsible Member of Firm

EC AQCD011 (MAR)

DEPARTMENT OF AIR QUALITY CONTROL #058

CITY OF EAST CHICAGO INDIANA

Certificate of Operation

1978

DATE ISSUED December 31, 1978

COMPANY NAME M+T Chemicals

NUMBER OF UNITS 13

ADDRESS 415 E. 151st Street

EXPIRATION DATE January 1, 1979

East Chicago, Indiana

THIS CERTIFICATE OF OPERATION DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY THE AIR QUALITY CONTROL ORDINANCE AS ENACTED MARCH 27, 1968 AND LAST AMENDED APRIL 23, 1973 AND KNOWN AS THE MUNICIPAL CODE OF THE CITY OF EAST CHICAGO, INDIANA, OR THE RULES AND REGULATIONS OF THE STATE AIR POLLUTION BOARD. THIS CERTIFICATE IS SUBJECT TO COMPLETE ADHERENCE TO ALL APPLICABLE COMPLIANCE SCHEDULES

THIS CERTIFICATE MUST BE POSTED IN A CONSPICUOUS PLACE AT OR NEAR OPERATING EQUIPMENT.

REVOCABLE AND NOT TRANSFERABLE

DIRECTOR

ASSISTANT DIRECTOR

Copy

OGUES 463

LITHO IN U.S.A.

SFG15L

M&T Chemicals Inc.

SUBSIDIARY OF AMERICAN CAN COMPANY

Inter-Office Correspondence

TO: MANUFACTURING SERVICES RAHWAY GENERAL OFFICE ATTN. MR. T. MEGLIS	FROM: EAST CHICAGO PLANT MR. L. D. TAYLOR
FILE:	DATE: May 22, 1969
Referring to yours of:	Referring to ours of:

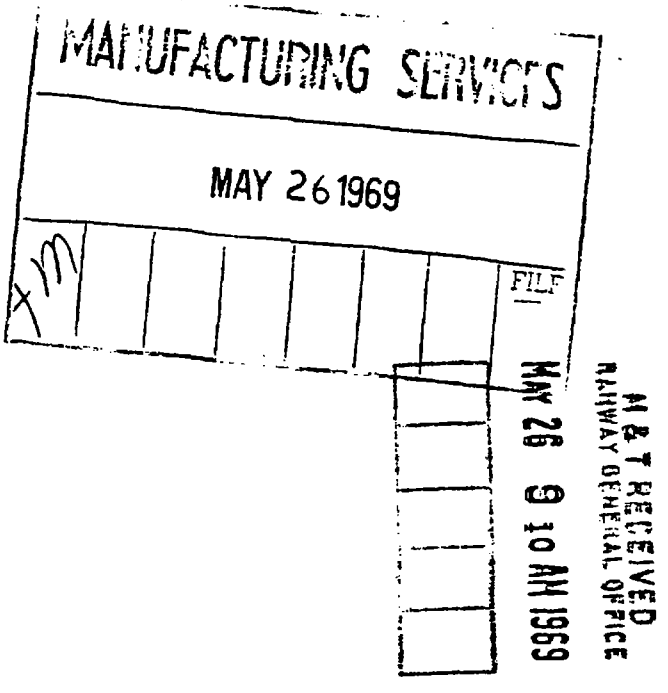
Subject: CORPORATE POLLUTION CONTROL

As per our phone conversation, the attached sheets are best "guesstimates" for the SO_2 and tin oxide dust generated by our boiler house and TOX calciner. The calculations for this and the previous information supplied Rahway General Office are on file here at East Chicago for future reference. If you have any further comments, don't hesitate to call.

Per W. P. Stefaik

WPS:MS

Att.



EAST CHICAGO

AIR AND WATER POLLUTION SURVEY

5/22/69

SOURCE	IDENTIFICATION OF PROCESS	COMPOSITION OF DISCHARGE	AVERAGE QUANTITY DISCHARGED UNITS /24 HRS	MAX. QUANT. DISCHARGED UNITS/HR.	FREQUENCY OF DISCHARGE
BOILER HOUSE	STEAM GENERATION	OXIDES OF SULFUR 60 ppm as SO_2 (YEARLY AVERAGE)	8.9 MM FT^3 (STP)	495,000 FT^3 (STP) @ 270 ppm SO_2	CONTINUOUS
TOX CALCINER	CALCINING OF TOX	1 TO 40 ppm SO_2	2.2 MM FT^3 (STP)	180,000 FT^3 (STP) @ 40 ppm SO_2	2 WEEKS CONTINUOUS /MO
TOX GRINDING & CALCINING, SMELTER BUILDING	GRINDING & CALCINING OF TIN OXIDE	TIN OXIDE DUST	0 – 20 POUNDS OF TIN OXIDE DUST THRU WINDOWS & SMALL LESS THRU BAG HOUSE	ESTIMATED AT 5 POUNDS PER HOUR MAX.	ABOUT 20 DAYS /MO.

SPG 15L

M&T Chemicals Inc.

SUBSIDIARY OF AMERICAN CAN COMPANY

Inter-Office Correspondence

TO: MR. T. G. MEGLIS RAHWAY GENERAL OFFICE	**FROM:** EAST CHICAGO PLANT MR. DONALD J. EMILIAN
FILE:	**DATE:** January 22, 1971
Referring to yours of: 1/18/71	**Referring to ours of:**

Subject: PLANT POLLUTION SURVEY - 1971 UPDATE

The operations at East Chicago have not changed appreciably since the last pollution survey forms were submitted. Current emissions remain substantially the same.

During the last year, however, we have installed a spray drier. Emission estimates for this unit will be found on the attached forms. The figures are identical with those submitted to the City of East Chicago in their Air Quality Control Survey.

The spray drier has reduced dust concentrations within operating buildings. In the last report submitted, it was indicated that dust levels within the building housing the TOX grinding and calcining operation were often quite high. An additional dust collector is on order to help alleviate this situation. This should be in operation around April of 1971.

W.P. Stupak

WPS:MS

MANUFACTURING SERVICES

JAN 25 1971

TGM | FILE

LUTION SURVEY

DATE January 21, 1971

(4) . Quant. charged ts/24 Hr.	(5) Max. Quant. Discharged Units/ Hr.	(6) Frequency of Discharge	(7) Indicate Applicable Regulations
),000 .ft./day	30,000 CFH	Continuous when operating, 50% on cycle	None as yet

Any Complaints From (10) Neighbors ? Explain	(11) Remarks
lo	Operation is clean - Less dust inside building than from previous tray drier process. Also eliminates one grinding operation with its attendant dust problem.

M&T 1510

M&T Chemicals Inc.

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INTERNAL CORRESPONDENCE

SUBSIDIARY OF AMERICAN CAN COMPANY

TO	DEPARTMENT	LOCATION	ROUTE TO
L. R. Ward		East Chicago	
FROM	**DEPARTMENT**	**LOCATION**	
C. R. Dancer	Safety & Environ. Affairs	RGO	
SUBJECT			**DATE**
PLANT VISIT			10-28-76

On October 14, the writer visited your plant for the purpose of reviewing outstanding items from previous inspections and to review the operation of the new electro winning department. I was very pleased with the condition of the plant and I noted no violation of your safety rules as I toured the manufacturing area. Listed below are the items I discussed with you and which I feel will need follow up.

The dry blender in the plating area requires a new dust collecting system. The old system is not capturing the dust when the operators are blending the dry compounds and the pack out stations are not capturing the dust as the operators pack out the finished products. The system should be totally redesigned using the 14th edition of the Industrial Ventilation Handbook. Pick up points should be designed so that contaminants are drawn away from the employees rather than past his face and breathing zone.

The ventilation system for the nickel blending operation should also be repaired. I was told by the area supervisor that new parts had been ordered for this system.

As I also discussed with you, I will back in the near future to do some monitoring in the warehouse. There appears to be no roof ventilation in the warehouse and I am concerned about the levels of carbon monoxide. The new standard for carbon monoxide is 25 ppm which is considerably below the old standard. The last item which we discussed concerning this area was the condition of the warehouse floor. During hot, muggy days, this floor becomes very slippery and makes it hazardous to drive fork trucks on. I would recommend that the floor in the warehouse be cleaned and sealed, thus eliminating this continuing problem.

In the detinning building, it was noted that several covers were missing from electrical boxes and switches. A thorough inspection should be made of this area and all missing covers replaced.

I have attached a copy of the OSHA Standards for ammonia handling and unloading. I have highlighted the areas which Tom Kubistal should review to insure that we are following proper procedures in this area.

I would like to thank you and your staff for the time spent with me on this visit. It was very evident that you and your staff are interested in operating a safe plant and this is also reflected in the low number of recordable accidents which you had this year.

If I can be of help to you in the design of the dust collecting system or help in any other items in this memo, please contact me at Rahway.

Charlie

CRD:cc

cc: D. Hill-w/att.
L. Taylor-wo/att.

EPA Notification of Hazardous Waste Site

United States
Environmental Protection
Agency
Washington DC 20460

This initial notification information is required by Section 103(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and must be mailed by June 9, 1981.

Please type or print in ink. If you need additional space, use separate sheets of paper. Indicate the letter of the item which applies.

Person Required to Notify:

Enter the name and address of the person or organization required to notify.

Name: M&T Chemicals Inc.
Street: P. O. Box 1104
City: Rahway State: NJ Zip Code: 07065

Site Location:

Enter the common name (if known) and actual location of the site.

Name of Site: M&T Chemicals Inc.
Street: 415 East 151st Street
City: East Chicago County: Lake State: IN Zip Code: 46312

Person to Contact:

Enter the name, title (if applicable), and business telephone number of the person to contact regarding information submitted on this form.

Name (Last, First and Title): Sheldon, Arthur W. Director of Safety and Environmental Affairs
Phone: (201) 499-2401

Dates of Waste Handling:

Enter the years that you estimate waste treatment, storage, or disposal began and ended at the site.

From (Year): 1954 To (Year): 1977

Years are very approximate

Waste Type: Choose the option you prefer to complete

Option 1: Select general waste types and source categories. If you do not know the general waste types or sources, you are encouraged to describe the site in Item I—Description of Site.

General Type of Waste:
Place an X in the appropriate boxes. The categories listed overlap. Check each applicable category.

1. ☐ Organics
2. ☐ Inorganics
3. ☐ Solvents
4. ☐ Pesticides
5. ☐ Heavy metals
6. ☐ Acids
7. ☐ Bases
8. ☐ PCBs
9. ☐ Mixed Municipal Waste
10. ☐ Unknown
11. ☐ Other (Specify)

_____
_____
_____

Source of Waste:
Place an X in the appropriate boxes.

1. ☐ Mining
2. ☐ Construction
3. ☐ Textiles
4. ☐ Fertilizer
5. ☐ Paper/Printing
6. ☐ Leather Tanning
7. ☐ Iron/Steel Foundry
8. ☐ Chemical, General
9. ☐ Plating/Polishing
10. ☐ Military/Ammunition
11. ☐ Electrical Conductors
12. ☐ Transformers
13. ☐ Utility Companies
14. ☐ Sanitary/Refuse
15. ☐ Photofinish
16. ☐ Lab/Hospital
17. ☐ Unknown
18. ☐ Other (Specify)

_____
_____
_____

Option 2: This option is available to persons familiar with the Resource Conservation and Recovery Act (RCRA) Section 3001 regulations (40 CFR Part 261).

Specific Type of Waste:
EPA has assigned a four-digit number to each hazardous waste listed in the regulations under Section 3001 of RCRA. Enter the appropriate four-digit number in the boxes provided. A copy of the list of hazardous wastes and codes can be obtained by contacting the EPA Region serving the State in which the site is located.

D007		
D002		

Form Approved
OMB No. 2000-0138

Notification of Hazardous Waste Site — Side Two

Waste Quantity:

Place an X in the appropriate boxes to indicate the facility types found at the site.

In the "total facility waste amount" space give the estimated combined quantity (volume) of hazardous wastes at the site using cubic feet or gallons.

In the "total facility area" space, give the estimated area size which the facilities occupy using square feet or acres.

Facility Type

1. ☐ Piles
2. ☐ Land Treatment
3. ☒ Landfill
4. ☐ Tanks
5. ☐ Impoundment
6. ☐ Underground Injection
7. ☐ Drums, Above Ground
8. ☐ Drums, Below Ground
9. ☒ Other (Specify) Neutralization in a limestone-filled pit

Total Facility Waste Amount

cubic feet: Unknown

gallons:

Total Facility Area

square feet:

acres: 4.1

Known, Suspected or Likely Releases to the Environment:

Place an X in the appropriate boxes to indicate any known, suspected, or likely releases of wastes to the environment.

☐ Known ☐ Suspected ☒ Likely ☐ None

Note: Items H and I are optional. Completing these items will assist EPA and State and local governments in locating and assessing hazardous waste sites. Although completing the items is not required, you are encouraged to do so.

Sketch Map of Site Location: (Optional)

Sketch a map showing streets, highways, routes or other prominent landmarks near the site. Place an X on the map to indicate the site location. Draw an arrow showing the direction north. You may substitute a publishing map showing the site location.

SEE ATTACHED PLOT PLAN

Description of Site: (Optional)

Describe the history and present conditions of the site. Give directions to the site and describe any nearby wells, springs, lakes, or housing. Include such information as how waste was disposed and where the waste came from. Provide any other information or comments which may help describe the site conditions.

The site in question was previously entirely owned by American Can Co. when M&T was a wholly-owned subsidiary of American Can. In 1977, American Can sold M&T Chemicals to Elf Aquitaine but American Can retained one division. The site described in this report was then split in two -- part retained by American Can and part became the property of M&T Chemicals. The part now owned and operated by M&T today produces electroplating chemicals. Indications are this aspect of the operation may have disposed of chromic acid mixtures by landfill and neutralized liquid waste in a limestone pit. Similar disposal practices from our operation may have occurred on the property now part of American Can Company. Laboratory waste was also disposed of via in-ground limestone pits. This report covers the present property and operations. It is our understanding that American Can will be filing a notification, if appropriate, for the operation and land presently under their control. M&T reserves the right to amend this filing if the American Can report is later found to be deficient from M&T's perspective.

J **Signature and Title:**

The person or authorized representative (such as plant managers, superintendents, trustees or attorneys) of persons required to notify must sign the form and provide a mailing address (if different than address in item A). For other persons providing notification, the signature is optional. Check the boxes which best describe the relationship to the site of the person required to notify. If you are not required

Name: A. W. Sheldon

Street: M&T Chemicals Inc.
P. O. Box 1104

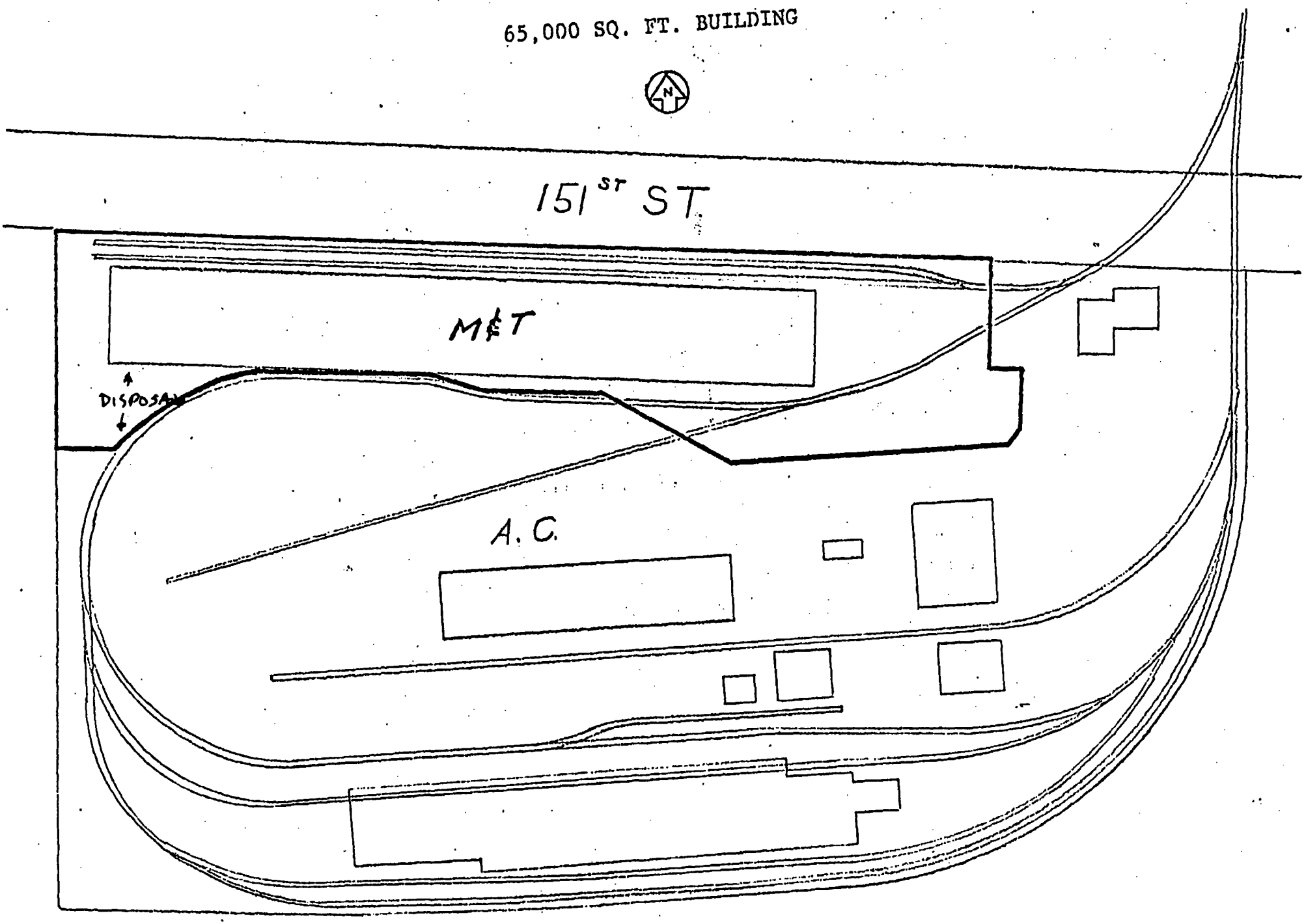
City: Rahway State: NJ Zip Code: 07065

Signature: A. W. Sheldon Date: 6/5/81

☒ Owner, Present
☐ Owner, Past
☐ Transporter
☐ Operator, Present
☐ Operator, Past
☐ Other

4.1 ACRES

65,000 SQ. FT. BUILDING



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M & T 1510

M&T Chemicals Inc.

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INTERNAL CORRESPONDENCE — SUBSIDIARY OF AMERICAN CAN COMPANY — ROUTE TO

TO	DEPARTMENT	LOCATION
A. C. WASSER	MANUFACTURING SERVICES	RAHWAY
FROM D. J. EMILIAN	**DEPARTMENT** METALS RECOVERY	**LOCATION** EAST CHICAGO PLANT

SUBJECT WASTE PROFILE REPORT FILED WITH EAST CHICAGO SANITARY DISTRICT — **DATE** 4/18/72

As per your request in your memo dated 3/28/72, attached is a copy of the East Chicago Sanitary District waste treatment performance report, indicating influent and effluent compositions in recent years.

Also for your information, laboratory wastes at East Chicago are not discharged to the sewer system. The volume is small so they are disposed of in a limestone-filled dry well outside the building.

The filterable residue reported may seem high, but this is largely the result of our peculiar type of effluent. Our effluents are subject to a type of post-precipitation of organic and inorganic solids. Solids will separate from even highly clarified effluent given sufficient time and cooling to ambient temperatures. The nature of this precipitate is not known, but analysis have indicated that it is not a tin compound. Obviously an effluent sample collected and analyzed several days later will show a higher suspended solids content than a fresh sample.

Per William P. Stefik

WPS:MS
Encl.

cc: Mr. L. D. Taylor, Rahway

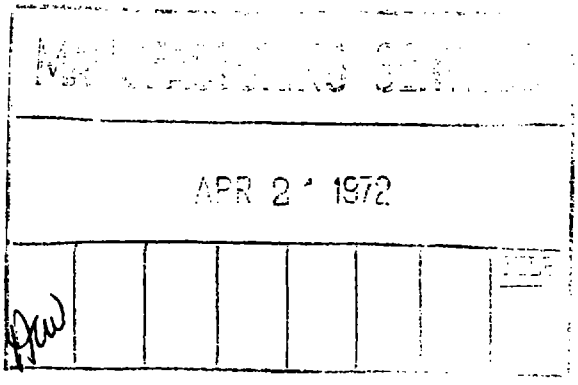

TABLE 1-A

AMMONIA

EAST CHICAGO SEWAGE TREATMENT PLANT

1970 - 1971

	INFLUENT	EFFLUENT
1970		
JANUARY	28	25
FEBRUARY	34	30
MARCH	30	29
APRIL	18	21
MAY	13	24
JUNE	25	30
JULY	25	24
AUGUST	23	21
SEPTEMBER	24	27
OCTOBER	24	24
NOVEMBER	52	38
DECEMBER	53	58
TOTAL	349	351
YEAR AVG	29	29
1971		
JANUARY	62	54
FEBRUARY	52	49
MARCH	34	34
APRIL	52	43
MAY	40	45
JUNE	64	53
JULY	107	95
AUGUST	102	83
SEPTEMBER	135	110
OCTOBER	90	86
NOVEMBER	79	65
DECEMBER	100	86
TOTAL	917	803
YEAR AVG	76	67

ALL VALUES IN MG/L

TABLE 1-B

CHLORIDE

EAST CHICAGO SEWAGE TREATMENT PLANT

1970 - 1971

	INFLUENT	EFFLUENT
1970		
JANUARY	196	233
FEBRUARY	195	182
MARCH	161	206
APRIL	145	183
MAY	152	202
JUNE	176	180
JULY	175	189
AUGUST	201	205
SEPTEMBER	184	199
OCTOBER	204	196
NOVEMBER	248	242
DECEMBER	319	299
TOTAL	2356	2516
YEAR AVG	196	210
1971		
JANUARY	274	293
FEBRUARY	264	293
MARCH	287	323
APRIL	209	235
MAY	148	214
JUNE	208	207
JULY	258	264
AUGUST	252	264
SEPTEMBER	332	273
OCTOBER	257	213
NOVEMBER	164	175
DECEMBER	213	205
TOTAL	2866	2859
YEAR AVG	239	238

ALL VALUES IN MG/L

TABLE 1-C

PHENOL

EAST CHICAGO SEWAGE TREATMENT PLANT

1970 - 1971

	INFLUENT	EFFLUENT
1970		
JANUARY	4.6	.009
FEBRUARY	5.5	.008
MARCH	6.2	.011
APRIL	1.2	.006
MAY	1.0	.014
JUNE	2.7	.007
JULY	4.5	.012
AUGUST	7.1	.019
SEPTEMBER	2.6	.009
OCTOBER	5.0	.017
NOVEMBER	12.3	.044
DECEMBER	20.5	.370
TOTAL	73.2	.526
YEAR AVG	6.1	.044
1971		
JANUARY	24.3	.044
FEBRUARY	15.8	.017
MARCH	8.6	.017
APRIL	1.6	.010
MAY	0.6	.008
JUNE	1.0	.011
JULY	16.2	1.538
AUGUST	19.6	1.582
SEPTEMBER	22.8	.205
OCTOBER	25.3	.704
NOVEMBER	37.9	4.159
DECEMBER	18.0	.250
TOTAL	191.7	8.545
YEAR AVG	16.0	.712

350x

ALL VALUES IN MG/L

TABLE 1-D

C. O. D.

EAST CHICAGO SEWAGE TREATMENT PLANT

1970 - 1971

	INFLUENT	EFFLUENT
1970		
JANUARY	226	127
FEBRUARY	247	114
MARCH	226	150
APRIL	109	91
MAY	85	50
JUNE	85	42
JULY	151	47
AUGUST	160	65
SEPTEMBER	149	56
OCTOBER	179	95
NOVEMBER	170	97
DECEMBER	225	118
TOTAL	2012	1052
YEAR AVG	168	88
1971		
JANUARY	240	110
FEBRUARY	201	94
MARCH	210	64
APRIL	154	52
MAY	125	40
JUNE	109	53
JULY	195	152
AUGUST	242	171
SEPTEMBER	255	182
OCTOBER	296	162
NOVEMBER	316	205
DECEMBER	238	154
TOTAL	2581	1439
YEAR AVG	215	120

ALL VALUES IN MG/L

TABLE 1-E

pH

EAST CHICAGO SEWAGE TREATMENT PLANT

1970 - 1971

	INFLUENT	EFFLUENT
1970		
JANUARY	8.6	7.9
FEBRUARY	8.4	7.8
MARCH	8.0	7.5
APRIL	7.6	7.4
MAY	7.6	7.5
JUNE	7.9	7.5
JULY	8.2	7.7
AUGUST	8.4	7.9
SEPTEMBER	8.4	8.0
OCTOBER	8.3	8.0
NOVEMBER	8.6	7.9
DECEMBER	8.3	7.8
TOTAL	98.3	92.9
YEAR AVG	8.2	7.7
1971		
JANUARY	8.5	7.9
FEBRUARY	8.3	7.6
MARCH	8.2	7.6
APRIL	8.1	7.8
MAY	8.4	8.0
JUNE	8.1	7.8
JULY	8.2	8.0
AUGUST	8.2	8.0
SEPTEMBER	7.8	7.8
OCTOBER	7.9	7.6
NOVEMBER	7.6	7.4
DECEMBER	8.0	7.5
TOTAL	97.3	93.0
YEAR AVG	8.1	7.8

TABLE 1-F

B. O. D.

EAST CHICAGO SEWAGE TREATMENT PLANT

1970 - 1971

	INFLUENT	EFFLUENT
1970		
JANUARY	178	26
FEBRUARY	159	41
MARCH	137	40
APRIL	136	46
MAY	102	46
JUNE	148	63
JULY	146	55
AUGUST	153	55
SEPTEMBER	83	29
OCTOBER	111	48
NOVEMBER	93	34
DECEMBER	87	32
TOTAL	1533	515
YEAR AVG	128	43
1971		
JANUARY	130	21
FEBRUARY	106	28
MARCH	112	24
APRIL	115	24
MAY	93	33
JUNE	91	43
JULY	128	54
AUGUST	168	66
SEPTEMBER	210	74
OCTOBER	233	60
NOVEMBER	213	77
DECEMBER	168	67
TOTAL	1767	571
YEAR AVG	147	47

ALL VALUES IN MG/L

TABLE 1-G

SUSPENDED SOLIDS

EAST CHICAGO SEWAGE TREATMENT PLANT

1970 - 1971

	INFLUENT	EFFLUENT
1970		
JANUARY	132	36
FEBRUARY	124	24
MARCH	124	94
APRIL	112	34
MAY	102	19
JUNE	99	16
JULY	136	15
AUGUST	154	27
SEPTEMBER	141	18
OCTOBER	157	41
NOVEMBER	96	35
DECEMBER	147	46
TOTAL	1524	405
YEAR AVG	127	34
1971		
JANUARY	140	31
FEBRUARY	154	41
MARCH	175	27
APRIL	129	16
MAY	116	12
JUNE	88	16
JULY	66	37
AUGUST	71	38
SEPTEMBER	92	36
OCTOBER	144	29
NOVEMBER	89	44
DECEMBER	89	39
TOTAL	1353	366
YEAR AVG	113	30

ALL VALUES IN MG/L

TABLE 2-A

SUSPENDED SOLID AVERAGES

SUMMARY BY YEARS

EAST CHICAGO SEWAGE TREATMENT PLANT

YEAR	INFLUENT	EFFLUENT	% REDUCTION
1965	107	9	91%
1966	102	12	88%
1967	105	18	83%
1968	110	30	73%
1969	124	31	75%
1970	127	34	74%
1971	113	30	76%

TABLE 2-8

B. O. D.

SUMMARY BY YEARS

EAST CHICAGO SEWAGE TREATMENT PLANT

YEAR	INFLUENT	EFFLUENT	% REDUCTION
1965	81	8	89%
1966	89	9	90%
1967	135	15	89%
1968	145	27	81%
1969	141	32	77%
1970	128	43	66%
1971	147	47	69%

TABLE 2-C

PHOSPHOROUS

SUMMARY BY YEARS

EAST CHICAGO SEWAGE TREATMENT PLANT

YEAR	INFLUENT	EFFLUENT	% REDUCTION
1965	-	-	-
1966	-	-	-
1967	-	-	-
1968	7.9	4.3	45%
1969	5.8	4.2	28%
1970	5.3	3.4	36%
1971	5.2	5.0	4%

TABLE 2- D

AMMONIA

SUMMARY BY YEARS

EAST CHICAGO SEWAGE TREATMENT PLANT

YEAR	INFLUENT	EFFLUENT	% REDUCTION
1965	-	-	-
1966	-	-	-
1967	-	-	-
1968	38	42	8%
1969	63	47	25%
1970	29	29	0%
1971	76	67	18%

TABLE 2-E

C. O. D.

SUMMARY BY YEARS

EAST CHICAGO SEWAGE TREATMENT PLANT

YEAR	INFLUENT	EFFLUENT	% REDUCTION
1965	-	-	-
1966	-	-	-
1967	-	-	-
1968	225	89	60%
1969	245	126	49%
1970	168	88	48%
1971	215	120	45%

TABLE 2-F

PHENOL

SUMMARY BY YEARS

EAST CHICAGO SEWAGE TREATMENT PLANT

YEAR	INFLUENT	EFFLUENT	% REDUCTION
1965	-	-	-
1966	-	-	-
1967	-	-	-
1968	15.6	.048	99%
1969	14.0	.032	99%
1970	6.1	.044	99%
1971	16.0	.712	96%

THE FOLLOWING CRITERIA HAS BEEN ESTABLISHED FOR THE RECEIVING WATERS OF THE EAST CHICAGO SANITARY DISTRICT. THE FOLLOWING TABLES INDICATE THE STANDARDS FOR THESE RECEIVING WATERS.

TABLE 3-A

CRITERIA
OPEN WATER

CONTROL POINTS- CHICAGO SOUTH DISTRICT FILTRATION PLANT AND GARY-WEST PLANT INTAKES

COLIFORM BACTERIA - MPN/100 ML.

ANNUAL AVERAGE (ARITHMETIC)	NOT MORE THAN 200
SINGLE DAILY VALUE OR AVERAGE	NOT MORE THAN 2,500

FECAL STREPTOCOCCI - NUMBER/100 ML.

NOT MORE THAN 25

TURBIDITY

NO TURBIDITY OF OTHER THAN NATURAL ORIGIN THAT WILL CAUSE SUBSTANTIAL VISIBLE CONTRAST WITH THE NATURAL APPEARANCE OF THE WATER.

TABLE 3-A (CONT.)

True Color - Units		
Annual Average	Not more than	5
Single Daily Value or Average	Not more than	15
Threshold Odor (Hydrocarbon and/or Chemical)		
Daily Average	Not more than	4
Single Value	Not more than	8
Odor		
No obnoxious odor of other than natural origin.		
Temperature - °F	Not more than	85
Oil		
Substantially free of visible floating oil.		
Floating Solids and Debris		
Substantially free of floating solids and debris from other than natural sources.		
Bottom Deposits		
Substantially free of contaminants that will: (1) adversely alter the composition of the bottom fauna; (2) interfere with the spawning of fish or their eggs; (3) adversely change the physical or chemical nature of the bottom.		
pH - Units		
Annual Median	Within range	8.1 - 8.4
Daily Median	Within range	7.7 - 9.0
Dissolved Oxygen - Per Cent Saturation		
Annual Average	Not less than	90
Single Value	Not less than	80
Ammonia Nitrogen (n) - mg/l		
Annual Average		0.02
Single Daily Value or Average		0.05
Total Nitrogen (N)		0.4
Methylene Blue Active Substance - mg/l		
Annual Average	Not more than	0.05
Single Daily Value or Average	Not more than	0.20

TABLE 3-A
CRITERIA (continued)
OPEN WATER

Chlorides (CL) - mg/l		1965	1970	1980	1990	2000
Annual Average	Not more than	8	9	10	11	12
Single Daily Value or Average	Not more than		15 (through 1970)			

Cyanides (CN)-mg/l	
Single Value	Not more than 0.025

Fluorides (F) - mg/l	
Annual Average	Not more than 1.0
Single Daily Value or Average	Not more than 1.3

Dissolved Iron (Fe)-mg/l	
Annual Average	Not more than 0.15
Single Daily Value or Average	Not more than 0.30

Phenol-like Substances - mg/l	
Annual Average	Not more than 0.001
Single Value	Not more than 0.003

Sulfates (SO_4) - mg/l		1965	1970	1980	1990	2000
Annual Average	Not more than	23	24	26	28	30
Single Daily Value or Average	Not more than		50 (through 1970)			

Total Phosphates (PO_4)-mg/l	
Annual Average	Not more than 0.03
Single Daily Value or Average	Not more than 0.04

Filterable Residue (Total Dissolved Solids (mg/l)		1965	1970	1980	1990	2000
Annual Average		162	165	172	179	186
Single Daily Value or Average	Not more than		200 (through 1970)			

Miscellaneous Trace Contaminants and Radionuclides

Shall not be present in concentrations that will prevent meeting PHS 1962 Drinking Water Standards after conventional treatment.

TABLE 3-B
CRITERIA
INNER HARBOR BASINS

Control Points - Hammond and East Chicago Water Intakes

TABLE 3-B
CRITERIA (continued)
INNER HARBOR BASINS

Coliform Bacteria - MPN/100 ml.

Annual Average (Arithmetic)	Not more than 2,000	
Single Daily Value or Average	Not more than 5,000	(1)

Fecal Streptococci-Number/100 ml — Not more than 100

Turbidity

No turbidity of other than natural origin that will cause substantial visible contrast with the natural appearance of water.

Ture Color - Units

Annual Average	Not more than 5
Single Daily Value or Average	Not more than 15

Threshold Odor (Hydrocarbon and/or Chemical) (Units

Annual Average	Not more than 8
Single Daily Value or Average	Not more than 20

Odor

No obnoxious odor of other than natural origin.

Temperature - ^{o}F — Not more than 85

Oil

Substantially free of visible floating oil.

Floating Solids and Debris

Substantially free of floating solids and debris from other than natural sources.

Bottom Deposits

Substantially free of muck and debris of other than natural origin.

pH - Units

Annual Median	Within range 8.0-8.5
Daily Median	Within range 7.5-9.0

Dissolved Oxygen - Per Cent Saturation

Annual Average	Not less than 80
Single Daily Value or Average	Not less than 65

TABLE 3-B
CRITERIA (continued)
INNER HARBOR BASINS

Ammonia Nitrogen - mg/l

Annual Average	0.05
Single Daily Value or Average	0.12

Methylene Blue Active Substance-mg/l

Annual Average	Not more than	0.10
Single Daily Value or Average	Not more than	0.30

Chlorides-mg/l		1965	1970	1980	1990	2000
Annual Average	Not more than	16	18	20	22	24
Single Daily Value or Average	Not more than		30 (through 1970)			

Cyanides - mg/l

Single Value	Less than	0.1

Fluorides - mg/l

Annual Average	Not more than	1.0
Single Daily Value or Average	Not more than	1.3

Dissolved Iron - mg/l

Annual Average	Not more than	0.15
Single Daily Value or Average	Not more than	0.30

Phenol-like Substances-mg/l

Annual Average	Not more than	0.002
Single Daily Value or Average	Not more than	0.005

Sulfates-mg/l		1965	1970	1980	1990	2000
Annual Average	Not more than	35	36	39	42	45
Single Daily Value or Average-Not more than			75 (through 1970)			

Total Phosphates -mg/l

Annual Average	Not more than	0.05
Single Daily Value or Average	Not more than	0.10

Filterable Residue (Total Dissolved Solids)-mg/l		1965	1970	1980	1990	2000
Annual Average	Not more than	187	190	197	204	211
Single Daily Value or Average	Not more than		230 (through 1970)			

CRITERIA
GRAND CALUMET RIVER

Control Point - Baltimore and Ohio Chicago Terminal Railroad Bridge.

Coliform Bacteria MPN/100 ml.

Maximum Value 5000 except during periods of storm water runoff.

Fecal Streptococci-Number/100 ml

Maximum value 500 except during periods of storm water runoff.

True Color - Units

Annual Average		25
Single Daily Value or Average	Not more than	50

Odor

No obnoxious odors of other than that of natural origin.

Temperature °F — Not more than 90

Oil

Substantially free of visible floating oil.

Floating Solids and Debris

Substantially free of floating solids and debris from other than natural sources.

Bottom Deposits

Substantially free of sludge banks.

pH - Units

Annual Median — Within range 6.5-9.0

Dissolved Oxygen - mg/l

Average (May through September)		3.0
Single Daily Value or Average	Not less than	1.0

BOD - mg/l

Single value — Less than 10.0

Ammonia-Nitrogen - mg/l

Single Value — Not more than 5.0

TABLE 3-C
CRITERIA (CONTINUED)
GRAND CALUMET RIVER

METHYLENE BLUE ACTIVE SUBSTANCES MG./L.

SINGLE VALUE	NOT MORE THAN 0.5

CHLORIDES - MG./L.

ANNUAL AVERAGE	75
SINGLE DAILY VALUE OR AVERAGE	NOT MORE THAN 125

PHENOL-LIKE SUBSTANCES - MG./L.

SINGLE VALUE	NOT MORE THAN 0.020

FILTERABLE RESIDUE (TOTAL DISSOLVED SOLIDS) - MG./L.

SINGLE VALUE	NOT MORE THAN 500

Industrial Waste Profile

1. Brief description of generating process and pretreatment process
2. Volume of daily discharge. Are there diurnal variations?
   Is there a change on weekends?
3. Temperature of discharge
4. Analytical profile of discharge
   a. suspended solids
   b. pH
   c. COD
   d. volatile solids
   e. BOD
   f. ammonia
   g. Kjeldahl nitrogen
   h. phenolic compounds
   i. phosphorus
   j. cyanide
   k. chromate
   l. chloride
   m. oil
   n. iron
   o. sulfates
   p. filterable residue

   It is understood that discharge characteristics may change with process operations. A mean value for each of the above as well as concentration ranges would be most helpful.
5. Are there marked changes in discharge characteristics in a short period of time, is flow relatively constant?
6. Are these flows metered?
7. Are these flows routinely sampled?
8. Are inflammable substances routinely or accidently discharged?
9. Does this discharge contain any sanitary wastes?
10. A description and location of any other outfalls other than those containing industrial wastes would be appreciated.

1.4

Area Seven

Name: Mud Pond effluent .5% NaOH

Description: This is a dark brown liquid containing approximately 5% sodium hydroxide. Solution may be strongly irritating to eyes and skin. Aquatic life may be harmed if discharged to open waters.

Clean-up and Neutralization Procedure:

Temporary and emergency dikes must be constructed to retain any leakage or overflow from the settling pond. This liquid can be transferred by carbon steel pump to steel drums for future disposal.

If neutralization is required, sulfuric acid can be used in the amounts indicated below. Neutralized spills should be pumped to the effluent holding tank and not allowed to run to the ship canal.

1 gal. 5% alkaline effluent requires 0.009 gals. (34.3 ml) of 66% Be sulfuric acid

Note: Both must be diluted with water before mixing acid and caustic.

M&T 1810

M&T Chemicals Inc.

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INTERNAL CORRESPONDENCE

ROUTE TO

TO	DEPARTMENT	LOCATION
A. E. Slesinger	Safety & Environmental Affairs	RGO

FROM	DEPARTMENT	LOCATION
M. R. Carr	Manufacturing	E. Chicago

SUBJECT: CHEMICAL SOLID WASTE DISPOSAL

DATE: 7/31/78

Attached is the completed Chemical Solid Waste Disposal questionnaire distributed by your memo of 7/7/78.

The East Chicago plant presently has no solid waste as a by product of product manufacture. Solid waste consists of empty raw material containers, drums, bags, pallets, used filter packs and floor sweepings. In the future if stannate operations are moved into the M&T East Chicago facility, disposal of caustic waste could create a problem.

If there are any questions, please call.

M. R. Carr

MRC:rs

cc: O. C. Culler, RGO

Att.

M & 1510

M&T Chemicals Inc.

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INTERNAL CORRESPONDENCE

TO	DEPARTMENT	LOCATION	ROUTE TO
ALL OPERATING LOCATION MANAGERS			
FROM: A. E. SLESINGER	DEPARTMENT: SAFETY & ENVIRON. AFFAIRS	LOCATION: RAHWAY GENERAL	
SUBJECT: CHEMICAL SOLID WASTE DISPOSAL			DATE: 7/7/78

The last Congressional session resulted in the passage of the Resource Conservation and Recovery Act. A major provision in this act is for the establishment of federal standards on the storage, shipment and disposal of hazardous wastes. Sometime in the next few months the Federal EPA will be issuing a number of standards relating to the storage, shipment and disposal of chemical wastes. This department would like to get some idea of the potential liability M&T faces if the regualtions are particularly stringent. The way the law is written the Federal Government will promulgate standards and it will be necessary for each state to implement those regulations. Most of the states are presently gearing up by passing the necessary enabling legislation in each state. Failure to do so can lead to either Federal enforcement of the regulation or withdrawl of EPA funds. In light of this, please take about half an hour to provide this department with the information below with respect to the chemical waste generated from this facility.

1. How many firms presently take industrial waste from this facility?
   One.

2. Is chemical waste segregated from nonchemical wastes such as office refuse, etc?
   No.

3. How much waste did each contractor haul away during the calendar year 1977 or any other calendar year which is representative?
   Industrial Disposal empties 1-40 cu. ft. trash compactor box per week; therefore, approximately 2100 cu. yd. of waste hauled per year.
4. How much was paid to each contractor for the quantity of waste referenced above?

   Present cost - $3.00/cu. yd.
   Approximate cost per year - 2100 x 3.00 = $6300
5. Is the plant presently placing chemical waste in drums that have been previously used either for M&T products or supplied by a Raw Material supplier?
   No.

6. Are bulk containers being used for chemical wastes?
   Yes.

7. Have any contractors refused to handle any of the waste generated from this plant due to the hazardous nature of the waste material?

No.

8. Does the plant attempt to segregate chemical wastes in order to insure incompatible materials are not accidentially mixed?

No.

9. Who in the plant is responsible for acquiring disposal firms for chemical wastes?

Warehouse Foreman.

10. Does the plant presently keep any records with respect to who disposes of what particular waste container or product?

No.

11. If records are kept, how long are the records retained?

N/A

12. Are any efforts being made to determine if any of the DOT hazards are applicable to waste shipments?

Yes.

13. Excluding transportation regulations, are the plants chemical wastes presently being regulated by any state or regional authority?

No.

14. If the regional authority is involved, what regulations impinge upon the disposal of those wastes?

N/A

15. If the cost of solid waste disposal were to sharply escalate, are there materials presently disposed of which would now justify recycling or upgrading in lieu of disposal?

No.

16. If the regulations required that each waste container be indelible marked with a identification number, what would it cost the plant to perform such an operation? It is highly probable that the regulations will require that a manifest number be attached to each container and the manifest to accompany that shipment.

If bulk compactors could not be used and trash had to be separated & identified, one employee would spend an additional 20 hr/wk. @ $7.90/hr. = $8200/yr.

17. Do you feel there is any individual at the plant who is capable of recognizing such hazards as flammability, corrosivity and reactivity who could apply such judgements to each waste shipment?

Yes.

18. If all waste shipments had to be in new or reconditioned DOT approved containers what would be the approximate cost to the plant?
Reconditioned containers cost $8.50 per 55 gal. drum, would require approximately 5-10 drums per week for DOT classified materials.
$8.50 x 10 x 52 = $4420/yr.

19. Where in the plant are chemical wastes shipments stored and are these areas monitored?
Wastes are stored in a trash compactor box located outside the building and is monitored only when in use.

20. Are the present disposal firms being employed licensed and are you aware of their license numbers?
Industrial Disposal Corp.
2000 Gary Rd.
East Chicago, Indiana
Licensing information not available.

For the purpose of this questionaire please consider that the term chemical waste has the broadest possible definition. If materials are being disposed of which have value and M&T is receiving compensation for that value please indicate so. Please try to have this form filled out and returned to Corporate Safety and Environmental Affairs by August 1st, 1978. It is not necessary that the statistics provided be absolutely accurate, estimates will be more than sufficient.

Thank you for your cooperation in this matter.

Very truly yours,

Arthur E. Slesinger

AES:jlu
cc: J. Hockenberry-Rahway General
O. Culler-Rahway General
A. Sheldon-Rahway General

M & T 1510

M&T Chemicals Inc.

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INTERNAL CORRESPONDENCE — SUBSIDIARY OF AMERICAN CAN COMPANY — ROUTE TO

TO	DEPARTMENT	LOCATION
D. J. Sullivan	Safety & Environ Affairs	WEO

FROM	DEPARTMENT	LOCATION
M. R. Carr	Manufacturing	East Chicago

SUBJECT: SUPERFUND REPORTING

DATE: 4/10/81

Per your 2/11/81 and 4/7/81 memos an investigation was made of previous disposal and dumping practices at the East Chicago location. In talking with long term employees it was determined that at one time chromic acid compound blending was a process at the East Chicago Plant. To the best of anyones recollection this took place sometime between 1954 and 1960. During that period of time there is also recollection by one of the employees that the liquid clean up waste from the blending operation was drained into a limestone and gravel pit located between the West end of Building 25 and the ship canal. There are no records to substantiate this dumping and the quantity or quality of the waste is unknown. Further investigation also indicates that somewhere to the South of Building 25, possibly on MRI Corp. property, and at the Southwest corner of Building 25 several pits were dug and off-spec and obsolete chromic acid compounds were dumped. Again information is sketchy on this subject as no records are available and there are only one or two employees that are still with the Company that remember the chromic acid operation.

The only other dumping operation of note was the discharge of liquid waste from the quality control laboratory. Between the period earily 1950's till 1977 the lab liquid wastes were discharged to a limestone pit on the South side of Building 25.

If more information becomes available I'll contact you and if further action such as core sampling or EPA notification is needed let us know.

M. R. Carr

cc: J. Hockenberry-WEO